CONSTRUCTION NEWS

Supplement to ENGINEERING NEWS. New York, December 28, 1905.

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CONSTRUCTION NEWS.

PLANS AND SPECIFICATIONS ON FILE.

The following Plans (P.), Specifications (S.), and Bidding Sheets (B. S.) may be seen at the office of The Engineering News Publishing Co., 220 Broadway, New York:

Bids close.	Work.	Place.	On file.	See issue.
Dec.				
*29	Irrigation canal	S. F'ncisco, Cal.	P. & S.	11-23
*	—Steel rolled beams	New York	S.	10-12
Jan.				
*2	Water system	Manila	P. & S.	9-21
*4	Garbage crem't'y	Lexington, Ky.	S.	11-30
6	Caisson	Charleston, S. C.	S.	12-14
*8	Dredging	Jacksonville, Fla.	S.	12 21
*12	Sewer system	Manila	P. & S.	9-21
*15	Dump scow	Wilmington, N. C.	P. & S.	12-21
*15	Girder bridge	Cameron, Ill.	P. & S.	12-28
*15	Irrigation canal	Billings, Mont.	P. & S.	12- 7
16	Pipe sewers	Boston, Mass.	S.	11-23
*19	Bridge substrctre.	Salem, Mass.	P. & S.	12-28
*19	Bdge superstrctre.	Salem, Mass.	P. & S.	12-28
20	Dredging	Guantanamo, Cuba	S.	12-21
Apr.				
*2	Port works	Chile	P. & S.	5- 4
5	Wharves	Manila, P. I.	P. & S.	12-14

*Work advertised in Engineering News.

NOTE—We are desirous of securing specifications and bidding sheets (and plans when not too bulky) of pending work for file in our New York office for the benefit of contractors or others who may be interested in the work. If more sets than one are sent us we shall be pleased to distribute these to contractors who ask for them. When the work is advertised in Engineering News a note that the plans are filed with us will be added to the advertisement without cost.

LIST OF CONTRACTS PENDING.

Bids close.	Work.	Place.	See issue.
LIGHT, HEAT AND POWER PLANTS.			
Dec. 28	City lighting	Wilkesbarre, Pa.	Dec. 28
Dec. 30	Electric light fixtures, etc.,	Vancouver Barracks, Wash	Dec. 21
Jan. 2	Electric light plant	Tallapoosa, Ga.	Dec. 21
Jan. 5	Electric wiring	Washington, D .C.	Dec. 7
Jan. 5	Park lighting	Milwaukee, Wis.	Dec. 7
Jan. 15	Electric light plant	Argenta, Ark.	Dec. 21
	Advertised, Eng. News, Dec. 21 to Jan. 4.		
No date	Gas plant, Mains	Elkader, Ia.	Dec. 14
BRIDGES.			
Dec. 28	Bridges	Redfield, S. Dak.	Dec. 14
Dec. 28	Two bridges	Richmond, Ind.	Dec. 14
Dec. 29	Bridge	Kilbourn, Wis.	Dec. 14
Jan. 1	Steel bridge	Pensacola, Fla.	Sept. 28
Jan. 1	Bridge, steel	Pensacola, Fla.	Nov. 2
Jan. 2	**Steel bridge**	**Duluth, Minn.**	**Nov. 30**
Jan. 2	Bridge	Manitowoc, Wis.	Dec. 14
Jan. 2	Bridge	Zim, Minn.	Dec. 21
Jan. 2	Bridges	Lyndon, Kan.	Dec. 21
Jan. 2	Bridge	Colville, Wash.	Dec. 28
Jan. 3	Bridges	Vincennes, Ind.	Dec. 28
Jan. 3	Bridge	Centralia, Wash.	Dec. 28
Jan. 3	Bridge	Blue Earth, Minn.	Dec. 28
Jan. 3	Bridges	Oberlin, Kan.	Dec. 21
Jan. 3	Bridge	Pittsburg, Pa.	Dec. 21
Jan. 3	Bridge	Cheyenne, Okla.	Dec. 21
Jan. 4	Bridges	Salem, Mass.	Dec. 7
Jan. 5	Bridges	Vermillion, S. Dak.	Dec. 21
Jan. 8	Bridge	Akron, O.	Dec. 21
Jan. 9	Steel bridge	Chattanooga, Tenn.	Dec. 7
	Advertised, Eng. News, Dec. 7 and 14.		
Jan. 9	Bridges	Brookings, S. Dak.	Dec. 14
Jan. 10	Bridges	Lexington, Neb.	Dec. 28
Jan. 10	Bridges	Lexington, Neb.	Dec. 28
Jan. 15	Bridge	Cameron, Ill.	Dec. 28
	Advertised, Eng. News, Dec. 28.		
Jan. 19	Substructure	Salem, Mass.	Dec. 28
	Advertised, Eng. News, Dec. 28 and Jan. 4.		
Jan. 19	Superstructure	Salem, Mass.	Dec. 28
	Advertised, Eng. News, Dec. 28 and Jan. 4.		
Jan. 23	Bridge	Belgium	Nov. 2
BUILDINGS.			
Dec. 28	Construction, etc.,	San Antonio, Tex.	Dec. 28
	Advertised, Eng. News, Dec. 28 to Jan. 18.		
Dec. 28	Boiler house	Philadelphia, Pa.	Dec. 28
	Advertised, Eng. News, Dec. 28 to Jan. 18.		
Dec. 28	Completing court-house	Greensburg, Pa.	Dec. 21
Dec. 29	School	Pittsburg, Pa.	Dec. 21
Dec. 30	Stable, Fort Assinniboine	Mont.	Dec. 7
	Advertised, Eng. News, Dec. 7 to Jan. 4.		
Jan. 1	Court-house	Kentland, Ind.	Dec. 14
Jan. 1	Building	Goldsboro, N. C.	Dec. 21
Jan. 2	Building	Paris, Tex.	Dec. 21
Jan. 2	Court-house addition	Tampa, Fla.	Dec. 21
Jan. 2	**Buildings, Riverside,**	**Cal.**	**Nov. 30**
Jan. 2	Heating and ventilating	Brooklyn, N. Y.	Dec. 28
Jan. 2	Electric lighting	Brooklyn, N. Y.	Dec. 28
Jan. 2	Heating and ventilating	New York, N.Y.	Dec. 28
Jan. 2	Church	Waco, Tex.	Dec. 28
Jan. 4	**Post-office, Natchitoches, La.**		**Nov. 16**
	Advertised, Eng. News, Nov. 16 and 23.		
Jan. 4	**Library, Bloomington, Ind.**		**Nov. 23**
	Advertised, Eng. News, Nov. 23.		
Jan. 4	Building	Natchitoches, La.	Dec. 28
Jan. 4	Building	Macon, Ga.	Dec. 28
Jan. 5	Electric systems	Washington, D. C.	Dec. 7
	Advertised, Eng. News, Dec. 7 to Jan. 11.		
Jan. 5	Heating system, etc.,	Washington, D. C.	Dec. 7
	Advertised, Eng. News, Dec. 7 to Jan. 11.		
Jan. 5	**Heading, etc., Washington, D. C.**		**Nov. 30**
Jan. 5	Elevators, Washington, D. C.		Dec. 14
	Advertised, Eng. News, Dec. 14 to 28.		
Jan. 5	Steam heating, Laramine, Wyo.		Dec. 14
	Advertised, Eng. News, Dec. 14 and 21.		
Jan. 8	Glazing, etc., Washington, D. C.		Dec. 14
	Advertised, Eng. News, Dec. 14 to Jan. 4.		
Jan. 8	School	Brooklyn, N. Y.	Dec. 28
Jan. 8	Heating & ventilating	New York, N. Y.	Dec. 28
Jan. 8	Cottages and barn	Jackson, Fla.	Dec. 28
Jan. 9	Buildings	National Military Home, Kan.	Dec. 28
Jan. 9	Building	Cincinnati, O.	Dec. 21
Jan. 10	Buildings	Fort Robinson, Neb.	Dec. 28
Jan. 10	**Post-office**	**Reno, Nev.**	**Nov. 16**
Jan. 11	Fire station	Delaware City, Del.	Dec. 21
	Advertised, Eng. News, Dec. 21 to Jan. 4.		
Jan. 15	**Building, So. McAlester, Ind. T.**		**Nov. 23**
Jan. 15	Blacksmith shop, etc.,	Oglethorpe, Ga.	Dec. 28
Jan. 16	City hall	Newark, N. J.	Dec. 21
Jan. 17	Cut stone	Washington, D. C.	Dec. 28
Jan. 26	Jail	Jacksonville, Fla.	Dec. 28
Jan. 31	**Library plans**	**Toronto, Ont.**	**Nov. 23**
Feb. 1	Library	Edgerton, Wis.	Dec. 21
WATER SUPPLY AND IRRIGATION.			
Dec. 28	Water mains	New York, N. Y.	Dec. 21
Dec. 29	**Irrigation canal**	**San Francisco, Cal.**	**Nov. 2**
	Advertised, Eng. News, Nov. 2 to Dec. 28.		
Dec. 30	Pumping engine, Washington, D. C.		Dec. 7
	Advertised, Eng. News, Dec. 7 and 14.		
Jan. 2	**Water-works, Philippines**		**Sept. 21**
	Advertised, Eng. News.		
Jan. 2	Water plant	Shenandoah, Va.	Dec. 28
Jan. 2	Water-works system	Piedmont, W. Va.	Dec. 21
Jan. 9	Water-works	Macon, Miss.	Dec. 21
Jan. 10	Water-works	Osceola, Ark.	Dec. 28
Jan. 12	Water-works	Minneapolis, Minn.	Dec. 28
Jan. 12	Pipes, hydrants, etc., Dufur, Ore.		Dec. 28
Jan. 15	Pumping engine	Lincoln, Neb.	Dec. 14
Jan. 15	Water-works equipment	Argenta, Ark.	Dec. 21
	Advertised, Eng. News, Dec. 21 to Jan. 4.		
Jan. 15	Pumping engines	Albany, N Y.	Dec. 21
	Advertised, Eng. News, Dec. 21 and Jan. 4.		
Jan. 15	Cisterns	Key West, Fla.	Dec. 21
Jan. 15	Irrigation canal	Billings, Mont.	Dec. 7
	Advertised, Eng. News, Dec. 7 to 18.		
Jan. 15	Water and sewer system	Parral, Mex.	Dec. 14
	Advertised, Eng. News, Dec. 14.		
Jan. 16	Tank and trestle	Seattle, Wash.	Dec. 28
Jan. 19	Water-works supplies	St. Louis, Mo.	Dec. 28
No date	Water meters	Delphi, Ind.	Dec. 7
	Advertised, Eng. News, Dec. 7.		
No date	Water-works, etc.,	Zionsville, Ind.	Dec. 21
SEWERAGE.			
Dec. 28	Sewer	Napoleon, O.	Dec. 14
Dec. 28	Sewers	New York, N. Y.	Dec. 28
Dec. 30	Concrete sewer	Waterbury, Conn.	Dec. 14
Dec. 30	Sewage purification plant, Ft.	Assiniboine, Mont.	Dec. 21
Dec. 30	Reconstructing sewer	Brooklyn, N. Y.	Dec. 21
Jan. 1	Sewer	Atlanta, Ga.	Dec. 28
Jan. 4	Storm sewer	Salt Lake City, Utah	Dec. 28
Jan. 4	Sewer	Washington, Ia.	Dec. 21
Jan. 9	Sewer	Cincinnati, O.	Dec. 21
Jan. 12	**Sewer system**	**Philippines**	**Sept. 21**
	Advertised, Eng. News.		
Jan. 15	Trunk sewer	Washington, D. C.	Dec. 14
	Advertised, Eng. News, Dec. 14 and 21.		
Jan. 15	Sewer system	Texarkana, Ark.	Dec. 21
Feb. 1	Sewer system	St. Johns, Ore.	Dec. 21
STREETS AND ROADS.			
Dec. 28	Paving	Buffalo, N. Y.	Dec. 21
Dec. 28	Paving	Little Rock, Ark.	Dec. 14
Dec. 28	Paving	Indianapolis, Ind.	Dec. 28
Dec. 28	Paving	Hamilton, O.	Dec. 28
Dec. 30	Paving	Seattle, Wash.	Dec. 21
Jan. 2	Paving	Chattanooga, Tenn.	Dec. 28
Jan. 2	Roads	Spencer, Ind.	Dec. 21
Jan. 4	Road	Bloomington, Ind.	Dec. 28
Jan. 5	Grading	Vermilion, S. Dak.	Dec. 28
Jan. 10	Road	Cleveland, O.	Dec. 28
Jan. 13	Roads	Knox, Ind.	Dec. 28
No date	Paving material	Lynchburg, Va.	Dec. 14
	Advertised, Eng. News, Dec. 14.		
MISCELLANEOUS CONTRACTS.			
Dec. 28	Ditches	Lebanon, Ind.	Dec. 21
Dec. 29	Wharf	Fort Monroe, Va.	Dec. 7
	Advertised, Eng. News, Dec. 7 and 21.		
Dec. 29	**Wharf**	**Fort Monroe, Va.**	**Nov. 30**
Dec. 30	Tunnel	Chicago, Ill.	Dec. 21
	Advertised, Eng. News, Dec. 21.		
Jan. 1	Grading, C., C., C. & St. L. Ry.		Dec. 21
	Advertised, Eng. News, Dec. 28.		
Jan. 1	**Statue, Indianapolis, Ind.**		**July 20**
	Advertised, Eng. News, July 20.		
Jan. 1	Garbage disposal	Chester, Pa.	Dec. 28
Jan. 2	Drainage	Spirit Lake, Ia.	Dec. 28
Jan. 2	Gantry crane	Washington, D. C.	Dec. 28
Jan. 2	**Railway**	**Chile**	**Aug. 24**
	Advertised, Eng. News, Nov. 9 to Dec. 28.		
Jan. 2	Machinery	Honolulu	Dec. 21
Jan. 3	Ditch	Iowa City, Ia.	Dec. 21
Jan. 3	Conduit railway	San Francisco, Cal.	Dec. 14
Jan. 6	Caisson	Charleston, S. C.	Dec. 14
Jan. 4	**Garbage crematory**	**Lexington, Ky.**	**Nov. 30**
	Advertised, Eng. News, Nov. 30 to Dec. 28.		
Jan. 5	Stone wall	New York, N. Y.	Dec. 28
Jan. 7	Roadway construction, C., C. & St. L. Ry		Dec. 28
	Advertised, Eng. News, Dec. 28.)		
Jan. 9	Tunnel	Boston, Mass.	Dec. 28
Jan. 9	Wharf work	New Zealand	Nov. 2
Jan. 8	Dredging	Jacksonville, Fla.	Dec. 14
	Advertised, Eng. News, Dec. 14 to Jan. 18.		
Jan. 8	Garbage crematory	Fort Barrancas, Fla.	Dec. 14
Jan. 8	Wharf	Ft. Monroe, Va.	Dec. 21
Jan. 9	Naval supplies	Washington, D. C.	Dec. 21
Jan. 9	Machine tools	Washington, D. C.	Dec. 14
Jan. 11	Supplies	Washington, D. C.	Dec. 28
Jan. 12	Dredging	New York, N. Y.	Dec. 28
	Advertised, Eng. News, Dec. 28 and Jan. 4.		
Jan. 12	**Ditch work**	**Glencoe, Minn.**	**Nov. 30**
Jan. 13	Garbage disposal plant	Racine, Wis.	Dec. 28
Jan. 15	Excavation	Buffalo, N. Y.	Dec. 7
	Advertised, Eng. News, Dec. 7 to 14.		
Jan. 15	Scow	Wilmington, N. C.	Dec. 21
	Advertised, Eng. News, Dec. 21 to Jan 11.		
Jan. 17	Drainage ditch, Ft. Dodge, Ia.		Dec. 28
Jan. 20	Railways	Philippine Islands	Dec. 28
Jan. 20	Dredging	Guantanamo, Cuba	Dec. 21
Jan. 31	Tunnel	Guanapuato, Mex.	Dec. 14
Feb. 1	Canals	Roswell, N. Mex.	Dec. 28
	Advertised, Eng. News, Dec. 28 to Jan. 18.		
Feb. 6	Steel sheds	New Orleans, La.	Dec. 28
	Advertised, Eng. News, Dec. 28 and Jan. 4.		
Feb. 13	Steel tower	Shreveport, La.	Dec. 28
	Advertised, Eng. News, Dec. 28 to Feb. 8.		
Apr. 5	Wharves	Manila, P. I.	Dec. 14
Apr. 2	Port works	Chile	May 4
	Advertised, Eng. News, May 4, 1905 to Apr. 1, 1906.		
May 1	Steel dock	Chile	Nov. 9
No date	Filling	Far Rockaway, N. Y.	Dec. 14
	Advertised, Eng. News, Dec. 14.		
No date	Railroad grading, etc.,	Tidewater Ry.	Dec. 14
	Advertised, Eng. News, Dec. 14 to 28.		

If you want to sell any of your plant, advertise it in ENGINEERING NEWS. Other contractors may be ready for work where they can use it. Don't keep your money tied up in idle equipment.

RAILWAYS.

The names of parties awarded contracts are printed in capital letters.

ATCHISON, TOPEKA & SANTA FE.—We are advised that the Eastern Ry. of Mexico has laid track during 1905 as follows: From Texico, N. Mex., west to Brazil Springs, 51 miles. From E. P. & R. I. Ry. crossing at Llano west to Montencino, 14 miles. From Willard, crossing with Santa Fe Central, west 16 miles. From Sais toward Abo Canyon, two miles. In addition to this there are 21 miles of track that were laid during 1903 from Belen to Sais. On the Owosso-Tulsa line, Ind. T., 10¼ miles were laid. James Dun is Ch. Engr., Santa Fe system, Chicago.

CENTRAL RY. OF MISSOURI.—We are advised that engineering work is now in progress by W. K. Palmer, M. E., 718 Dwight Bldg., Kansas City, Mo., for this railway. It is to be built from Miami to Marshall, Mo., and from Marshall to Sedalia, Mo., about 50 miles.

CLEVELAND, CHICAGO, CINCINNATI & ST. LOUIS.—Bids are asked until noon, Jan. 7, for the following work on the Cairo division: Construction of roadway for a single track on the Robison-Flat Rock relocation, 300,000 cu. yds.; construction of roadway for a single track on the Marshall relocation, 260,000 cu. yds.; construction of roadway for a single track on the Woodyard relocation, 85,000 cu. yds.; construction of roadway for a single track on the Edgar-Horace relocation, 20,000 cu. yds. W. M. Duane, Supt. Construction, Cincinnati, O. (Advertised, Engineering News.)

CHICAGO SOUTHERN.—This road, now under construction, will form the northern end of the new line of the Southern Indiana Ry. between Chicago and Terre Haute. The recent failure of the banks, headed by J. R. Walsh, Pres. of both railways, will not affect the construction, as the syndicate of Chicago banks which has assumed charge of the Walsh properties and interests has decided to carry out the work, and has notified the contractors to that effect. J. H. Pfafflin, Chicago, is Ch. Engr.

CHICAGO, ROCK ISLAND & PACIFIC.—Members of the Board of Directors have authorized expenditure during the next year of $4,800,000 in additions and improvements. This is in addition to expenditures for similar purposes heretofore authorized, on which a balance of $2,000,000 is yet to be spent. The Board also authorized the purchase of motive power and equipment, to cost $4,362,000, in addition to recent purchases amounting to $3,525,000. D. G. Reid is Chn. of Bd., at 71 Broadway, New York City.

CHESTERFIELD & LANCASTER.—A. H. Page, Pres., Cheraw, S. C., informs us that company has commenced grading on the 18-mile extension from Ruby to Lancaster, S. C., and it is expected to complete four miles during January. C. H. Scott is Ch. Engr., at Ruby, S. C.

CALIFORNIA MIDLAND.—H. Mallock, Secy., Rialto Bldg., San Francisco, Cal., states that this recently chartered company proposes to build a combination steam and electric line from Marysville to Grass Valley and Auburn, Cal., 70 miles. Surveys have been made. It is expected to begin construction by Jan. 1. John Martin is Pres. and C. A. Trow is Ch. Engr., both of San Francisco.

CHICAGO, INDIANAPOLIS & EVANSVILLE.—We are advised that surveys are completed and financial arrangements made for building this railway. Contracts are to be let about March 1. Wm. Kenefick is Pres., at Kansas City, Mo. Nathaniel M. De Bruin, of Indianapolis, Ind., is Ch. Engr. The line will be 324 miles in length and will extend from Evansville to Petersburg, Bloomington, Indianapolis, Logansport, Hammond, Ill., and Chicago, Ill.

DETROIT TERMINAL.—Work of grading for construction has been commenced on this line, which is to be 25 miles long, encircling city of Detroit, Mich. The company has been incorporated by Joseph H. Berry, Frank J. Hecker, Wm. G. Smith, Alfred Hooper, Chas. B. Warren, Peter N. Jackson and Wm. B. Cady. Capital stock is $5,000,000.

DUE WEST RY.—We are advised that surveys are completed and right-of-way largely secured for this railway, which will be built from Due West to Donalds, S. C., 4½ miles. Capital is secured. Bids are now being filed. Contracts will be let soon. It is proposed to connect with the interurban from Anderson, R. S. Galloway is Pres., at Due West, S. C.

EDMONDS & EASTERN.—Construction work has been commenced on this road from Edmonds, Wash., east, via Maltby, to Cherry Valley, between 25 and 30 miles. It is reported that three miles must be completed ready for operation by Jan. 1 in order to protect certain contracts.

FORT SMITH & WESTERN.—An extension probably will be built from Prague to Oklahoma City, Okla. B. F. Beckman is Engr. M. W., at Fort Smith, Ark.

GAINESVILLE MIDLAND.—E. B. Eppes, Mgr., Gainesville & Athens Construction Co., Gainesville, Ga., writes us confirming the announcement of the award of the grading contract to the GWATHMEY-MACKALL ENGINEERING CO., of Norfolk, Va., noted last week. The GAINESVILLE & ATHENS CONSTRUCTION CO. has the contract to build an extension from Jefferson to Athens, Ga., 18 miles, and to broaden the gage between Gainesville and Jefferson, 23 miles. This company has given the grading contract to the Gwathmey & Mackall Engineering Co.

LONG ISLAND R. R.—We are advised that 20 bids were received Dec. 12, by the Brooklyn Grade Crossing Commissioners, 44 Court St., Brooklyn, N. Y., for the Bay Ridge Improvement contract. Work includes approximately 1,000,000 cu. yds. of excavation. A portion of the excavated material is to be loaded on cars and disposed of by the Long Island R. R. Co. and the balance is to be placed in embankment. The construction of concrete abutments and retaining walls will approximate 15,000 cu. yds. and also the construction of pipe culverts and sewers. Contract was awarded on Dec. 26 to W. H. GAHAGAN, 189 Montague St., Brooklyn, at $421,780, work to be completed in 18 months. L. V. Morris is Engr.-in-Charge, 44 Court St. As previously noted, the whole of the Long Island Railroad improvement, including the Bay Ridge terminal, will cost from $6,500,000 to $7,000,000, and the work on the Brighton Beach line will cost $2,000,000. Plans and specifications for this work are on file at office of Engineering News, 220 Broadway, New York. Itemized bids will be given under Contract Prices on Jan. 4.

MICHIGAN CENTRAL.—The Fort Erie division is to be double-tracked from Welland to Fort Erie, it is reported. E. H. Webb is Ch. Engr., at Detroit, Mich.

NEW RIVER, HOLSTON & WESTERN.—A contract for building a 6-mile extension has been awarded to WINGATE & McGEE, of Roanoke, Va.

RAILWAY CONSTRUCTION.—"Extension and improvement work actually under way on western railroads," according to the "Wall Street Journal," New York, "amounts to $333,000,000, and similar work in contemplation amounts to $1,000,000 more, at least. Here is more than $750,000,000 outlay under the extension and improvement program of 1905 and 1906, though not one-half of this new work can be completed by the end of next year, scarcely one-sixth of it by the end of the present calendar year." The following table is made up of estimates acknowledged to be conservative where they are not official. It makes no allowances for any new transcontinental road except those built or under construction. (a) Work under way; (b) contemplated; (c) completed in 1905; (d) to be completed in 1906: Chicago, Milwaukee & St. Paul, (a) $70,000,000, (b) $30,000,000, (c) $10,000,000, (d) $30,000,000; Rock Island system, (a) $20,000,000, (b) $30,000,000, (c) $8,000,000, (d) $20,000,000; Atchison, Topeka & Santa Fe, (a) $20,000,000, (b) $15,000,000, (c) $15,000,000, (d) $10,000,000; Chicago, Burlington & Quincy, (a) $15,000,000, (b) $30,000,000, (c) $8,000,000, (d) $20,000,000; Great Northern, (a) $20,000,000, (b) $25,000,000, (c) $10,000,000, (d) $15,000,000; Northern Pacific, (a) $5,000,000, (b) $10,000,000, (c) $4,000,000, (d) $7,000,000; Union Pacific, (a) $8,000,000, (b) $22,000,000, (c) $5,000,000, (d) $9,000,000; Southern Pacific, (a) $10,000,000, (b) $15,000,000, (c) $5,000,000, (d) $10,000,000; Chicago & Northwestern, (a) $22,000,000, (b) $8,000,000, (c) $10,000,000, (d) $10,000,000; Western Pacific, (a) $5,000,000, (b) $45,000,000, (c) $5,000,000, (d) $15,000,000; Gould roads, (a) $10,000,000, (b) $30,000,000, (c) $8,000,000, (d) $18,000,000; San Pedro, Los Angeles & Salt Lake, (a) $6,000,000, (b) $4,000,000, (c) $1,000,000, (d) $6,000,000; Denver, Northwestern & Pacific, (a) $20,000,000, $30,000,000, (c) $3,000,000, (d) $6,000,000; Colorado Southern, (b) $50,000,000, (d) $5,000,000; Illinois Central, (a) $12,000,000, (b) $5,000,000, (c) $5,000,000, (d) $8,000,000; Minneapolis, St. Paul & Sault Ste. Marie, (a) $15,000,000, (b) $5,000,000, (c) $10,000,000, (d) $5,000,000; miscellaneous lines, including the Hawley lines, independent new roads, Chicago & Alton, Cleveland, Cincinnati, Chicago & St. Louis, Great Western (including Sioux City extension), and Chicago, Indianapolis & Louisville, (a) $75,000,000, (b) $100,000,000, (c) $30,000,000, (d) $50,000,000. Total, (a) $333,000,000, (b) $454,000,000, (c) $137,000,000, (d) $244,000,000. The Union Pacific and Western Pacific figures include the Oregon Ry. & Navigation Line and the Oregon Short Line."

ROCK ISLAND SOUTHERN.—Plans and specification for a girder bridge at Cameron, Ill., are on file at office of Engineering News, 220 Broadway, New York City. Bids are asked until Jan. 15 as advertised in Engineering News.

TIDEWATER AND DEEPWATER.—We are informed by MacARTHUR BROS. CO., Hanover Bank Bldg., New York City, and Roanoke, Va., that this company has sublet contracts as follows: JAMES HEARN & CO., of Ada, W. Va., grading, $65,000; W. N. CAMP & CO., of Roanoke, Va., grading, $100,000; CARPENTER & BOXLEY, of Clifton Forge, Va., grading and tunnel, $377,000; MASON, HANGER, COLEMAN CO., of Frankfort, Ky., grading and tunnel, $250,000; D. J. McDONALD, of Aurora, Ill., grading, $225,000; MIKE ELMORE, of Alliance, Neb., grading, tunnel and bluff work, $600,000; P. J. MILLETT, of Paris, Ky., bluff work, $250,000; CAHILL & PURNELL, of Eggleston, Va., bluff work, $100,000; J. C. ZOBRIST & CO., of Roanoke, Va., grading, $60,000; INGLES & SHELBURNE, of East Radford, Va., grading, $110,000; ETTORE FERRATA, of East Radford, grading, $70,000; BATES & ROGERS, of Chicago, masonry, $300,000; W. H. JOHNSON, Salem, a part of section 263, all of section 264, and part of 265, grading; LITZ & CO., Graham, Va., sections 359 to 362, grading and tunneling. The construction work is some of the heaviest rock and tunnel work ever undertaken in this country. Contractors are now busy looking over the balance of the work, and further announcements of contracts will be made in a few days. Noted last week.

TEXAS.—We are informed by our correspondent that the following is an approximate statement of the railway mileage that has been constructed in Texas during the six months ending Dec. 31, 1905. Also the statement as to the total miles of main line railway now constructed and in operation in Texas and statement of the railroad which is now under actual construction or which has been contracted for construction, the great part of which we have reason to believe will be completed during the coming year. Statement of railroad mileage constructed in Texas during the six months ending Dec. 31, 1905. Beaumont & Great Northern, from Trinity east, four miles; Houston & Texas Central, from Mexia south, one mile; Kansas City, Mexico & Orient, north of Sweetwater, 34 miles; Orange & Northwestern, Buna to Newton, 31 miles; St. Louis, Brownsville & Mexico, between Refugio and Bay City, 60 miles; St. Louis, Brownsville & Mexico, between Algoa and Bay City, 32 miles. Total, 171 miles. Mileage constructed and in operation on June 30, 1905, as will be shown by the 14th annual report of the railroad commission, 11,745 miles. Mileage constructed but not included in the report of the railroad commission, 15 miles. Total mielage in Texas on Dec. 31, 1905, 11,931 miles. Statement of the railroad mileage now under construction in Texas or for which the construction has been contracted for. Beaumont, Sour Lake & Western, Sour Lake to Humble, 56 miles; Beaumont & Great Northern, between Trinity & Onalaska, 21 miles; San Antonio & Gulf, Cuero to Stockdale, 45 miles; Houston & Texas Central, Mexia to Nelleva, 100 miles; Kansas City, Mexico & Orient, between Red River and San Angelo, 170 miles; St. Louis, Brownsville & Mexico, between Algoa and Bay City, 25 miles; Trinity & Brazos Valley, Mexia to Houston and from Teague Junction to Waxahachie, 227 miles; Wichita Valley, from Seymour to Stamford, 60 miles. Total, 704 miles. The above includes those railroads now under actual construction or for which the construction has been contracted for. It does not include a number of lines which are projected, some of which have been chartered, and which may be built within the next few years. It also does not include some 250 miles of "logging" railroads and other private railroads, some of which are chartered but which are not recognized by the railroad commisssion as common carriers. There are also some 40 miles of electric interurban railroad in the state not included in the above statements.

ELECTRIC RAILWAYS.

The names of parties awarded contracts are printed in capital letters.

PORTLAND, ME.—The Portland & Brunswick Extension Ry. Co. has been incorporated to construct a street railway between Yarmouth, Cumberland, Falmouth and Portland, a distance of 12 miles. The capital stock is $480,000. Noted on Dec. 14. The directors are: E. J. Lawrence, A. B. Page, S. A. Nye and Amos F. Gerald, all of Fairfield, and Cyrus W. Davis, of Waterville. The majority of these persons are also directors of the Lewiston, Brunswick & Bath Street Railway Co., whose branch line extends from Brunswick to Yarmouth. The connection between Yarmouth and Portland is now made by the Portland & Yarmouth Railroad, owned by the Portland Street Railroad Co.

BOSTON, MASS.—M. McDONOUGH, of Swampscott, Mass., has been awarded the contract for grading track and roadway between Lynn and Salem, Mass., for the Boston & Northern St. Ry. Co., 84 State St., Boston. Cost, about $55,000. B. B. Foss is Supt. of Lynn Division of B. & N. Co.

NAUGATUCK, CONN.—The Naugatuck Valley Electric Ry. Co. has secured right-of-way for its line between Naugatuck and Seymour. Noted on Dec. 21.

FAIRPORT, N. Y.—The village has given a new franchise to the Rochester, Syracuse & Eastern Ry. Co. C. D. Beebe is Gen. Mgr., at Syracuse, N. Y.

UTICA, N. Y.—The Utica & Mohawk Valley Ry. Co., of Utica, which was incorporated last February, has filed with the Secretary of State a certificate of increase of capital stock from $100,000 to $10,000,000. Press reports state that this increase is supposed to have direct reference to the proposed electrification of the West Shore Railroad in the Mohawk Valley, in connection with the recent absorption of the Mohawk Valley trolley lines by New York Central interests. C. Loomis Allen is Gen. Mgr., at Utica.

CAMDEN, N. J.—Regarding the electrification of the West Jersey & Seashore branch line of the Pennsylvania R. R. we are advised that that portion of the Pennsylvania Railroad to be electrified comprises 64 miles of steam road lying between Camden and Atlantic City, N. J., being a portion of the West Jersey & Seashore branch of the Pennsylvania system. It is proposed to utilize the Cape May line of this system from Camden as far as Newfield, this line being double-tracked with 100-lb. rails, and to build an additional track from Newfield to Atlantic City, making the lines double track throughout. Over this roadbed an express service will be established. The initial installation will provide for a three-car train every 15 minutes between Camden and Atlantic City, making the 64 miles in 80 minutes without stops. The maximum speed of the cars will be between 55 and 60 miles per hour. In addition to this through-service to Atlantic City, a half-hourly schedule is planned, consisting of 2-car trains between Camden and Millville, 40 miles, and 10-minute service of single cars between Camden and Woodbury, 8½ miles. Full service will call for 58 cars in operation, each equipped with two 200-HP. direct-current motors known as GE-69. These motors will be similar to those now being manufactured by the General Electric Co. for the equipments of the New York terminal of the New York Central & Hudson River R. R. The motors will be controlled by the Sprague-General Electric automatic multiple unit system, which will permit the operation of cars in trains, all of the motors being under the control of the motorman in the cab of the forward car. Current will be furnished to the cars by the third rail system, except on the sections between Camden and Woodbury, and Newfield and Millville where the cars will obtain the necessary current by an overhead trolley. The speed on these sections is less than on the main line. The power house will be located at Camden. Power for the operation of the cars will be furnished by three 2,000-KW. General Electric Curtis turbo-generators of the three-phase alternating current type, having a frequency of 25 cycles. From this power house transmission lines will be run to six sub-stations between Camden and Atlantic City, and a seventh sub-station at Millville to supply that section of the road lying between Millville and Newfield. The transmitting potential will be 33,000 volts. At the sub-stations a total capacity of 11,000 KW. in rotary converters will be provided, delivering direct current to the third rail at 650 volts. The individual units will be of the standard General Electric type and will have a capacity of 750 KW. They will be started [illegible] the alternating current end by means of [illegible] on the stepdown transformers. The [illegible] calls for the completion of this road [illegible] 1, 1906, in order to take care of the [illegible] summer traffic. The total cost [illegible] $3,000,000. The electrical equipment [illegible] furnished by the GENERAL ELECTRIC CO., of Schenectady, N. Y. Noted last week.

NEWARK, N. J.—The Public Service Corporation, through its subsidiary [illegible] designated as the Interstate Tunnel Co., of New Jersey, has completed plans for the proposed rapid transit route [illegible] Park Pl, Newark, and Chambers St., New York, and will commence work on the line as soon as the working plans are perfected by the engineering department. A change of route of "branch one," in Jersey end of the Hudson River and City end of the tunnel and tunnel [illegible] has been filed in the office of the secretary of State at Trenton. The change covers the addition to the length of "branch one" of 6,046 ft.

BRISTOL, VA.—The City Council has voted to hold the matter of granting a franchise for a street railway open for bids until Jan. 2. The franchise is also to be [illegible] so that work must begin within six months after the granting of the same, and must be completed from the intersection of State and Washington Sts. to a point near Virginia Institute within twelve months, and the [illegible] must be completed within two years after the granting of the franchise.

ANDERSON, S. C.—J. E. Sirrine, Engr., of Greenwood, S. C., has been appointed by the Anderson Traction Co. to superintend the construction of its extension to Belton, S. C. Bids for grading and construction have not been advertised yet.

ALGIERS (New Orleans post-office), LA.—It is reported that the Algiers Railway & Lighting Co. has let a contract to build a line from Gretna to Algiers, four miles, to the NEW ORLEANS ENGINEERING CO., of New Orleans. Leigh Carroll is Pres. of the railway company.

NASHVILLE, TENN.—The Nashville Ry. & Light Co. has plans in contemplation for several extensions to its system. Work probably would not be undertaken during the winter. Percy Warner is Pres. and Mgr.

HOPKINSVILLE, KY.—Wright Southgate, C. E., of Nashville, Tenn., will begin at once the work of surveying for the street railway, the franchise for which was sold three months ago to John H. Bell and others. A system of five miles is to be completed in nine months from the present time.

CLEVELAND, O.—We are informed that the Roberts & Abbott Co., Consult. Engrs., Schofield Bldg., Cleveland, O., and Baltimore, Md., who have been engaged as Consulting and Supervising Engrs. on the Cleveland, Ashland & Mansfield Ry., are making a great effort to finish up the civil engineering work on this railway before the winter closes in. They have at the present time four complete surveying corps in the field, and a large drafting office located on the work, so that the plotting of the results of the corps can be kept even with the work in the field and any necessary changes, which the calculations necessitate, can be made immediately. Borings are being made in all the hills to determine the location of rock, in order that exact estimates may be made of the construction cost. Electric power for operation will be purchased from an existing power house.

EVANSVILLE, IND.—The Vanderburg & Posey Electric Railway Co. has been incorporated with a capital stock of $10,000. The road, when completed, will run between Evansville and New Harmony, and Evansville and Mt. Vernon, connecting at some point with the Evansville & Princeton Traction Railway. The incorporators are: C. F. Martin, E. B. Bixler, J. A. Higgins, Warner Wade and Frank Emerson.

DETROIT, MICH.—Stockholders of the Detroit, Ypsilanti, Ann Arbor & Jackson Electric Ry. Co. have authorized the issuance of $600,000 new 5% bonds for the purpose of building a spur from the main line to Dexter, a distance of about two miles. In addition to the building of the spur, the proceeds of the bonds will be used to provide equipment. This issue added to the $2,000,000 of bonds already issued, makes a total bonded indebtedness of $3,200,000.

EDWARDSVILLE, ILL.—We are advised that the St. Louis & Northeastern R. R. Co. will be in operation from Granite City, Madison and Venice to Edwardsville by the middle of January. Noted on Oct. 12. R. D. Smith, of Edwardsville, is Gen. Supt.

ALTON, ILL.—W. R. Heagler, Ch. Engr. of the Alton, Jacksonville & Peoria Ry. Co., has completed surveys for this electric line from Alton to Jacksonville, Ill. It is said that construction will be commenced soon.

MILWAUKEE, WIS.—The Milwaukee Electric Ry. & Light Co., according to its president, John I. Beggs, will make the following improvements with the recently authorized bond issue of $20,000,000: A new central power station of 100,000 KW. capacity; a new street car line down Sycamore St., from Sixth, and crossing the Milwaukee River to Broadway; a new street car line down Wells St. from across the Milwaukee River to all with the Sycamore St. line to relieve the congestion on Grand Ave; four car stations at the four corners of the city; great additions to equipment in response to the necessity of extending lines within the city as required by the new franchise obtained some years ago by the company. Mr. Beggs is also Gen. Mgr. and Purchasing Agent for the company.

WINFIELD, KAN.—At a recent meeting of the Commercial Club a resolution was passed asking the city council to call an election to vote $20,000 in bonds for interurban railway to connect Winfield, Arkansas City and Chilocco.

ST. LOUIS, MO.—Surveys are being made for the St. Louis, Hillsboro & Southern Electric Ry. from St. Louis to Richwoods,

in Washington County, a distance of 60 miles. The company is incorporated, with a capital stock of $1,250,000. The officers are: R. E. Williams, Pres.; H. D. Brandt, Secy.; J. H. Weiner, of Morse Hill, Mo., Assistant Secy.; L. D. Winter, Treas., and H. M. Bowen, of Alton, Ill., Gen. Mgr. The terminus of the road will be in St. Louis County, near Mannion's Park. The following towns will be on the route: Carondelet, Telegraph Road, Bobring, Lemay Ferry, Luxembourg, Butler's Lake, Furnesville, Regina, Morse Hill, Hillsboro and Richwoods.

KANSAS CITY, MO.—We are informed that the Kansas City, Lees Summit & Eastern Electric Ry. Co. has made survey for 30 miles and that right-of-way is agreed upon and can be secured in one week. Company desires to correspond with parties that would finance the entire line. The railway will be 250 or 400 miles in length, but charter has been secured for only 30 miles. W. F. Johnson, 410 Junction Bldg., Kansas City, is Pres.

DENVER, COLO.—William G. Evans, Pres. of the Denver City Tramway Co., has announced that improvements are contemplated on all its lines. It is reported that $3,000,000 will be available for this work.

SEATTLE, WASH.—H. F. Grant, Mgr. Seattle Electric Co., writes us that no contracts will be awarded for proposed extensions to city line as company's forces will be employed. Heavier rails will be relaid.

PORTLAND, ORE.—Wm. H. Hurlburt, Pres. of Oregon Water Power & Ry. Co., is reported to have stated that $50,000 will be spent in double-tracking its line to The Oaks.

SAN FRANCISCO, CAL.—The San Francisco, Oakland & San Jose Railway Co. will in January issue $1,500,000 in second mortgage bonds, to be used in extending its system and increasing its equipment. Beside these changes additional improvements will be made, including an increase in the motive power from 3,000 HP. to 4,000 HP. two new ferry boats, 50 new cars, building of a new ferry slip, the placing of concrete piers under the ferry terminus and the enlarging of the station on the terminus.

LIGHT AND POWER PLANTS.

The names of parties awarded contracts are printed in capital letters.

QUINCY, MASS.—Council has under consideration a municipal lighting plant ordinance.

WESTBORO, MASS.—Selectmen have received a petition for a franchise from the Westboro Gas & Electric Light Co. to pipe gas through this place. G. L. Smith is Pres. and Mgr.

PROVIDENCE, R. I.—Board of Aldermen has awarded contract to the NARRAGANSETT ELECTRIC LIGHTING CO. for lighting the city for next six years.

GOUVERNEUR, N. Y.—It is reported that the International Pulp Co. will construct a high-tension power line for the transmission of electric energy to Gouverneur from one of the several water powers on the Oswegatchie River at or above Hailesboro, N. Y. The New York office of the Pulp Co. is at 41 Park Row.

WHITEHALL, N. Y.—The Consolidated Light & Power Co. is reported to be considering the construction of a gas plant. C. E. Wakeman is Supt.

TROY, N. Y.—The Special Committee appointed by the Board of Supervisors to report on the cost of erecting a county electric lighting plant for the various county buildings has submitted a report estimating the cost of a central plant to be erected on the County House of Industry property with wire connections with the other buildings as follows: Erecting plant complete, including poles and wires, $16,136, the cost of maintenance being $9,346 per year. The cost of erecting separate plans was estimated as follows: County House, $2,670; Court House, $1,700; armory, $2,000; county jail, $1,400; total cost of maintenance, $7,732.

UNION, N. Y.—A. Ray Humphrey, Village Clerk, states that H. B. Sweet, of Utica, is Engr. for the proposed electric light plant for which $15,000 of bonds have been voted on Dec. 19.

NORTH TONAWANDA, N. Y.—Mayor James P. Mackenzie has signed the resolution passed by the common council on Dec. 5, granting the Niagara Falls Electrical Transmission Co. a franchise in North Tonawanda for 50 years.

WILKESBARRE, PA.—Bids are asked until 8 p. m., Dec. 28, for lighting city streets and alleys. J. T. Flannery, City Clerk.

PITTSBURG, PA.—The Chemical Light, Heat & Power Co., of Pittsburg, is reported formed with Thos. McWatters, Times Bldg., as Mgr., to construct a plant at Beaver Falls, to cost about $200,000. This company is reported to have taken over the plant of the Wooster Gas Light Co., of Wooster, O., the plant of the McWatters By-Products & Gas Mfg. Co., at Beaver Falls, and will take over four other gas and electric light plants in Ohio and Pennsylvania.

PHILADELPHIA, PA.—THE PHILADELPHIA ELECTRIC CO. is reported to have secured the contract for lighting the streets by electricity for the year 1906, at $1,073,272.

WILMINGTON, DEL.—DANGEL & SONS, of Wilmington, will erect a new power house for the Philadelphia, Baltimore & Washington R. R. James Buckelew is Principal Asst. Engr.

FLORENCE, S. C.—We are advised that S. S. Ingman and associates of Florence will develop 2,300 HP. on Black Creek, four miles from this city. Ladshaw & Ladshaw, Engrs., Spartanburg, S. C., have prepared plans for this project. Est. cost is $150,000. Electricity developed will be used for power and lighting. Contracts will be let about Feb. 1.

AUGUSTA, GA.—We are informed that the matter of municipal light plant for this city will not be seriously considered until next year. If the city decides to build, ample opportunity will be given all interested to submit proposals, which will be advertised for in Engineering News. Nisbet Wingfield is City Engr. and Comr. of Public Works.

COCHRAN, GA.—City has sold $17,000 of bonds for electric light and water-works plant.

BUENA VISTA, GA.—This city has voted to issue bonds for construction of electric light plant. T. B. Rainey is City Clk.

LAKE CITY, FLA.—J. C. Sheffield, Chn. Bd. Pub. Wks., states that bids probably will be called for soon for a $15,000 addition to the electric light plant.

DOTHAN, ALA.—Bids are asked until Jan. 1 for a franchise for a gas plant. Each bid must guarantee the laying of two miles of mains of not less than 6-in. main pipe in 18 months. R. W. Lisenby is Town Clk.

ENTERPRISE, ALA.—The Enterprise Power & Light Co., of Enterprise, has been incorporated with a capital of $20,000, by J. P. Rouels, O. C. Doster, Jr., and others.

TROY, ALA.—F. D. Moses, of Trenton, N. J., is Designing Engr. for proposed plant for the Troy Gas Co. Est. cost, $50,000.

ANNISTON, ALA.—The Coosa River Electric Power Co. has been incorporated, with principal office at Room 937, First National Bank Bldg., Birmingham, and a capital of $100,000, to develop and utilize the natural water power of Coosa River at Ten Island Shoals, by building a dam, power house and transmission lines to Anniston, Gadsden, Attalla, Alabama City, Pell City, Riverside and other cities. R. H. Cobb is vice-Pres., at Anniston.

NEW ORLEANS, LA.—The Algiers Railway & Light Co. has awarded the contract for building an electric railway from Gretna to the Southern Pacific viaduct, in Algiers, to the NEW ORLEANS ENGINEERING CO., of this city. The plans and specifications call for an expenditure of $150,000. The present contract involves the construction of the railway and the extension of the electric light system through McDonoughville, Gretna and parts of Algiers that are not as yet provided with electric lights. Part of the extension of the lighting system has already been completed.

ABERDEEN, MISS.—On Dec. 15, $20,000 of electric light and sewer bonds voted at recent election were sold.

LINDENWALD (Hamilton post-office), O.—The FT. WAYNE CONSTRUCTION CO. of Fort Wayne, Ind., will erect new power plant for the C., D. & T. Ry. and the Cincinnati Northern at Lindenwald.

CINCINNATI, O.—E. M. Costello is in charge of the erection of a large concrete power plant on the Graydon estate here, to cost $200,000.

A natural gas franchise is to be granted to the Cincinnati Gas & Electric Co. by council.

HAMILTON, O.—The HENRY TAYLOR LUMBER CO. and the LAFAYETTE ENGINEERING CO., of Lafayette, Ind., were recently awarded the contract for the erection of large power house at Hamilton. The building will cost $100,000. It will be constructed of brick, stone and iron.

NEW CARLISLE, IND.—Geo. C. Morgan & Co., 169 Jackson Boulevard, Chicago, will build electrical power plant at New Carlisle.

CROSWELL, MICH.—On Dec. 4, $8,500 water, $5,500 electric light and $1,000 public improvement bonds were awarded to Denison, Prior & Co., of Cleveland, O., and Boston, Mass.

BREESE, ILL.—The contract for building the electric light plant has been awarded to the ELECTRIC STEAM ENGINEERING CO., of St. Louis. This company will build the plant complete excepting the power house. The entire system will cost about $27,000. It will be in operation by April 1.

ELGIN, ILL.—The Howard Construction Co., of Des Moines, Ia., is reported to be looking over the field here with a view to erecting a lighting plant at a cost of $200,000.

ABERDEEN, S. DAK.—Electric light plant bonds for $35,000 have been sold.

POCAHONTAS, ARK.—The Pocahontas Ice & Power Co. will construct electric light plant and 10-ton ice plant. Ruebel & Wells, Chemical Building, St. Louis, Mo., are the Engrs.-in-charge of the construction. Plant is to consist of two 25-HP. boilers and one 75-KW. single-phase alternator. The company has a capital stock of $25,000. W. H. Skinner is Pres. and C. E. Pringel, vice-Pres.

S. C. Dowell, of Walnut Ridge, is reported to be interested in the construction of an electric light plant at this place.

ALTUS, OKLA.—See under Water-Works.

WATONGA, OKLA.—The city has issued $6,000 of bonds for the erection of an electric light plant.

SEATTLE, WASH.—M. B. Haynes, 13 Scheuerman Blk., writes that the name of the Priest Rapids Irrigation & Power Co. has been changed to the Hanford Irrigation & Power Co. It is proposed to pump water for irrigation from Columbia River; probable cost of work contemplated, $340,000. Bids for construction will be received about Jan. 15. Engineer, H. K. Owens, Alaska Bldg.

NORTH YAKIMA, WASH.—W. A. Aldrich, of Spokane, Gen. Mgr. Spokane Falls Gas Co., is reported to have stated that the Yakima Gas Co. will construct a gas plant at North Yakima, at a cost of $40,000. Bids for construction will be called for early in the new year.

PORTLAND, ORE.—Wm. B. Chase, of Portland, Ch. Engr. Cascade Power Co., states that the proposed power plant will be located about 50 miles from Portland, the water to be developed to be taken from Zig Zag, Still and Camp Creeks, to furnish about 30,000 HP.; cost of proposed work, about $650,000. Noted last week.

PORTLAND, ORE.—The Rainier Water, Light & Power Co., of Portland, has been incorporated here with a capital stock of $50,000, by E. S. McCoon, A. B. Richardson and T. D. Richardson.

McMINNVILLE, ORE.—We are advised by Charles Grissen, Mayor, that the water and electric light plant is in charge of a special commission of which Dr. Lerory Lewis is Chn. and H. C. Burns.

PALO ALTO, CAL.—Steps are reported being taken to submit to vote the question of issuing $50,000 of bonds for water-works and lighting purposes.

SANTA ANA, CAL.—An election will be held on Jan. 10 to vote on issuance of $60,000 of electric lighting bonds and $50,000 for gas plant.

ANAHEIM, CAL.—An election will be held on Jan. 20 to vote on the question of issuing bonds, as follows: $23,000 of water-works improvement bonds, $25,000 electric light plant improvement bonds, $15,000 gas generating plant and distribution bonds, $3,000 cross-walk bonds, $3,000 street oiling bonds.

LOS ANGELES, CAL.—The Jurupa Water, Light & Power Co. has been incorporated here with a capital stock of $200,000. The incorporators are: F. Pickard, J. B. Samuel and H. L. Cornish, all of Los Angeles.

H. E. Huntington, of this city, is planning to invest $3,500,000 in electric power plants which will include an $800,000 power plant at Redondo. The ALLIS-CHALMERS CO., of Milwaukee, Wis., has the contract for the Redondo plant.

NEEDLES, CAL.—Daniel Murphy, of Los Angeles, is reported interested in the construction of a power plant at Needles, to furnish light and power to the town and mines.

SALT LAKE CITY, UTAH.—Chas. W. Johnson, 354 South Seventh West St., is reported to have filed application at the State Engineer's office for ten second-feet of water from Puffer Lake for power purposes. The diverting channel is to consist of a tunnel 3 ft. wide and 5 ft. high. From the tunnel a pipe line will be constructed a distance of 15,000 ft. to where the power plant will be constructed. The power will be used for lighting and propelling machinery in Marysvale and Kimberly.

MOOSE JAW, SASK.—On Dec. 18 $30,000 of 50-year water and light extension bonds were sold to J. W. Nay, of Regina, Sask.

BRIDGES.

The names of parties awarded contracts are printed in capital letters.

CAMBRIDGE, MASS.—Bids were received Dec. 15, by the Board of Aldermen for the construction of abutments and wing walls for the Cambridge bridge, as follows: Holbrook, Cabot & Rollins, Boston, Mass., $31,183; Wm. H. Ellis, Boston, Mass., $33,386; Patrick McGovern, Boston, Mass., $34,201; Wm. Crane, Boston, Mass., $35,246; Wm. L. Miller, Boston, Mass., $36,911; D. F. O'Connell Co., Dorchester, Mass., $39,016; Lawler Bros., Charlestown, Mass., $39,974; H. A. Hanscom, Boston, Mass., $50,123.

SALEM, MASS.—Bids are asked until noon, Jan. 19, for the construction of the substructure of a highway bridge over the Merrimac River at Haverhill, Mass. Plans and specifications are on file at the office of Engineering News, New York. James P. Hale, Clk. County Comrs. (Advertised, Engineering News.)

Bids are asked until noon, Jan. 19, for erecting the superstructure including the metal work and wooden floors for a highway bridge over the Merrimac River at Haverhill. Plans and specifications are on file at the office of Engineering News, New York. (Advertised, Engineering News.)

WARREN, R. I.—The matter of constructing a $20,000 bridge at this place is under consideration.

JAMESTOWN, N. Y.—The matter of erecting a new bridge across the Chadokin River at West Third St. is being considered by the Council.

COMSTOCK, N. Y.—It is reported that the Delaware & Hudson Co. will construct a new bridge across Champlain Canal at this place.

TOWANDA, PA.—It is reported that the Lehigh Valley Railroad Co., is considering the erection of a new bridge at this place.

WESTCHESTER, PA.—The county commissioners of Chester County contemplate the erection of a bridge at Cooks Fording.

LEWISBURG, PA.—A bridge across the Susquehanna River at this place will be built at cost of $100,000. County Commissioners of Union County can inform.

SHOUSETOWN, PA.—The Pittsburg & Lake Erie Railroad Co. has awarded the contract for the bridge at Locust St. to the DUQUESNE BRIDGE CO., of Beaver Falls, Pa. Cost is about $5,000.

HARRISBURG, PA.—Plans are nearing completion for a new steel bridge to replace the Mulberry St. structure in this city. M. B. Cowden is City Engr.

PITTSBURG, PA.—A contract has been awarded to WILLIAM B. SCAIFE & SONS CO. for building a new trestle over Lowrey's run for the Pittsburg Railways Co. The proposed structure will be 455 ft. long, varying from 30 ft. to 101 ft. in height, with girder spans from 26 ft. to 90 ft. each.

WILMINGTON, DEL.—Plans are nearing completion for the new reinforced concrete bridge across Brandywine Creek in this city. The new structure will have 3-56 ft. and 4-28 ft. spans. It will be 24 ft. wide. Total cost is approximately $35,000. Theodore A. Leiser, Wilmington, Del., is Ch. Engr.

NORFOLK, VA.—The Norfolk & Western Railroad Co. has applied to the Board of Harbor Commissioners for permission to replace the present drawbridge over the Elizabeth River with a steel bridge 75 ft. wide. The proposed bridge will have a double-track.

GUYANDOTTE, W. VA.—THE BRACKETT BRIDGE CO., 518 Walnut St., Cincinnati, O., received the contract for constructing a bridge at this place. Cost, $45,725.

INDIANOLA, MISS.—The contract for constructing the bridge at this place was awarded to the BELLEFONTAINE BRIDGE & IRON CO., of Bellefontaine, Ohio. The structure will be of steel, 25-ft. wide.

OAKDALE, TENN.—The Cincinnati, New Orleans & Texas Railroad Co. has awarded the contract for erecting eight bridges between this place and Helenwood on the Cincinnati Southern Railroad to the AMERICAN BRIDGE CO., 42 Broadway, New York, for about $250,000.

DAYTON, KY.—Preliminary plans have been drawn for a bridge for the Pennsylvania Railroad Co. across the Ohio River at this place. The bridge will cost approximately $1,000,000.

STEARNS, KY.—THE COLLIER BRIDGE CO., of Indianapolis, Ind., has been awarded the contract for constructing the bridge over Big Souile Fork of the Cumberland River at this place for the Kentucky & Tennessee Railway Co. The bridge will be steel and concrete, and will cost about $50,000. J. T. Richards and Ward Baldwin, Cincinnati, O., are Engrs.

VINCENNES, IND.—Bids are asked by John T. Scott, County Audr., until noon, Jan. 3, for the erection of four small steel bridges, one steel approach and the removal of one high truss bridge and one 180-ft. steel approach. E. C. Williams is Ch. Engr.

ATTICA, IND.—THE ATTICA BRIDGE CO. has been awarded the contract for constructing three new bridges in Fountain County.

PORT HURON, MICH.—Plans have been completed for the repairing of Military St. bridge and bids will be advertised soon. J. Tuthill, Detroit, Mich., is Engr.

MACKINAW, ILL.—The contract for erecting the new bridge at this place was awarded to E. C. EMMONS, of Webster, Ill., for $3,795.

CAMERON, ILL.—Plans and specifications for a girder bridge at Cameron are on file at office of Engineering News, 220 Broadway, New York City, and at office of the Rock Island Southern R. R. Co., Monmouth, Ill. Bids are asked until Jan. 15. (Advertised, Engineering News.)

MILWAUKEE, WIS.—The Common Council recently voted an ordinance providing for the issuing of $150,000 of bonds for the construction of two bascule bridges in connection with the Sixth St. viaduct.

MILWAUKEE, WIS.—Bids were opened by the Bd. Pub. Wks. Dec. 15, for the construction of section No. 1 of the superstructure of the Washington Ave. viaduct across the Menominee Valley as follows: American Bridge Co., $137,500; Worden-Allen Co., $129,975; Strobel Steel Construction Co., $91,510; F. W. Moore, four proposals on different designs, $124,750, $123,500, $112,825, $111,575.

MAIDEN ROCK, WIS.—It is reported that a new bridge will be built over the Rush River at this place.

TRIM BELLE, WIS.—The contract for constructing the bridge across Trim Belle Creek was awarded to M. A. ADAMS & CO., of Minneapolis, Minn., for $1,200.

LEON, IA.—It is reported that the construction of two bridges across the Grand River at this place is now under consideration.

MUSCATINE, IA.—It is reported that bids will be asked early in January for constructing three iron bridges. Wallace Preichler, Rock Island, Ill., is Engr.

OSKALOOSA, IA.—It is reported that a new bridge will be constructed across North Skunk River by county supervisors.

DECORAH, IA.—The contract for the construction of a two-span bridge, each 81 ft., over the Upper Iowa River has been awarded to N. M. STARK & CO., Crocker Bldg., Des Moines, Ia.

BLUE EARTH, MINN.—Bids are asked by G. B. Franklin, County Audr., until Jan. 3, for the construction of a steel bridge, on steel piers, across the Blue Earth River at this place.

MINNEAPOLIS, MINN.—The three lowest bids for the repairing of the Washington Av. bridge at this city were received at follows: Bayne & Hewitt, Minneapolis, $47,987; the Minneapolis Steel & Machinery Co., Minneapolis, $48,300; the Joliet Bridge & Iron Co., Joliet, Ill., $49,800. Andrew Rinker, City Engr.

HUOT, MINN.—Bids are asked by N. H. Watson, Chn. Com., until Dec. 30 for the construction of a new steel bridge over the Red Lake River at this place.

SOUTH OMAHA, NEB.—Plans for the new viaduct across the tracks of the Union Pacific R. R. at U St. are nearing completion. Herman Beal is Cy. Engr.

LEXINGTON, NEB.—Bids are asked by R. S. Thornton, County Clk., until Jan. 10, for the construction of all bridges that may be needed in Dawson County during the year 1906.

OMAHA, NEB.—The contract for the erection of a bridge over the Pappio River was awarded to the CANTON BRIDGE CO., of Canton, O., for $4,900.

MITCHELL, S. DAK.—A petition has been presented by Libson and Union townships for the construction of a new bridge across Emery Creek. The matter was referred to Commissioners Brake and Butterfield.

ST. LOUIS, MO.—It is reported that the St. Louis, Kansas City & Colorado Railroad Co. has secured a permit to build bridges across the Hanley, North and South and Olive St. roads. The bridge across the Hanley road will be of iron or steel with a

vertical clearance of 17 ft.; the North and South bridge will have a clearance of 15 ft., same as the Olive St. W. L. Darling, Chicago, Ill., is Ch. Engr.

LITTLE ROCK, ARK.—The Board of Public Affairs has awarded the contract for the construction of the steel viaduct, at Fort Smith crossing to the TEXAS BRIDGE CO., of Dallas, Tex., for $37,000.

VAN BUREN, ARK.—A bill was introduced in the House of Representatives Dec. 13, authorizing the construction of a bridge over the Arkansas River at this city.

WEATHERFORD, TEX.—The contract for the erection of the new bridge across the Brazos River at this place, was awarded to the MISSOURI VALLEY BRIDGE & IRON WORKS CO., of Leavenworth, Kan.

CAMERON, TEX.—The contract for the construction of Milam County's new bridge over Little River at Faubion crossing has been awarded to E. P. ALSBURY & SON, of Houston, at $7,400.

NAVASOTA, TEX.—Grimes County will construct three new bridges over Bedias, Neblett and Rocky Creeks. The structures will be of steel, with tubular piers.

AMARILLO, TEX.—An election will be held in this town Jan. 2 to vote on the question of issuing $20,000 of bonds for the construction of a bridge.

COLVILLE, WASH.—Bids are asked by F. A. Savage, County Audr., until Jan. 2, for the construction of a bridge across the Kettle River at this place. The new bridge will have two Howe truss spans each 100 ft. and two pile piers.

CENTRALIA, WASH.—Bids are asked by the County Auditor until Jan. 3, for the construction of a new bridge across the Tilton River at this place.

SPOKANE, WASH.—It is reported that the Northern Pacific Railroad Co. is contemplating the erection of a bridge across Hangman Creek.

Senator Ankeny is interested in the new bridge across the Spokane River. It is stated that the proposed bridge will cost $150,000.

MERRILL, ORE.—Bids are asked by George Chastain, County Clk., until Jan. 3, for the rebuilding of the county bridge at this place.

SAN FRANCISCO, CAL.—Plans are in progress for a new steel viaduct about 1,000 ft. long over the Southern Pacific Railroad at Channel St.

RED BLUFF, CAL.—The contract for the construction of an additional span to the bridge over Thomas creek has been awarded to PAUL & McCARTNEY, for $4,200.

PEMBROKE, ONT.—The Council proposes to construct a steel bridge across the Muskrat River at Mary St., at a cost of $25,000.

BUILDINGS.

The names of parties awarded contracts are printed in capital letters.

BOSTON, MASS.—Bids close Jan. 1, 1906, for constructing a large mercantile building corner of Water and Congress Sts. for the National Shawmut Bank. Winslow and Bigelow, 120 Tremont St., Boston, Mass., are Archs.

QUINCY, MASS.—Bids have been received for the $100,000 addition to the high school building here. A. H. Gould, 17 Milk St., Boston, Mass., is Arch.

GREENWICH, CONN.—A. B. STANNARD, JR., St. James Bldg., New York, has been awarded the contract for the high school building at this place. The building will cost about $100,000.

NEW YORK, N. Y.—Bids were opened by C. B. J. Snyder, Supt. School Bldgs., Dec. 26, for the alterations to Hall of the Board of Education at Park Ave. and 59th St., Boro. of Manhattan, as follows: Wm. Werner, 8225 Forest Ave., New York, $38,600; Thos. McKeown, 521 West 140th St., New York, $44,443; D. J. Ryan, 723 Third Ave., Brooklyn, $44,989; Thos. Cockerill & Son, 147 Columbus Ave., New York, $54,900; Julius Hause, 767 Lexington Ave., New York, $54,-987.

NEW YORK, N. Y.—DONALD MITCHELL, 304 West 53d St., New York, has been awarded the contract for constructing the loft building at 102-104 West 38th St., New York, for J. W. Stern & Co. Building will be fireproof; 9-stories, 50 × 100 ft. W. C. Somerfield, 19 Union Square, is Arch.

John Walker, of the Builders' Contracting Co., 141 Broadway, New York, is taking bids on masonry, carpentry, steel, roofing, heating, plumbing, electric wiring, switchboard, elevators and pumps for a 6-story loft building at Washington and Eleventh Sts., New York. C. A. Freisch, 627 Columbus Ave., is Arch.

Bids are being received by Shickel & Ditmars, Archs., 111 Fifth Ave., New York, for the new 12-story loft building at 207-217 West 24th St., New York, for the Frammer Realty Co. Size 85 × 125 ft.

Plans are in progress for a 5-story loft building on Bridge St., New York, for the C. Van Nostrand Co. Reinforced concrete, 50 × 75 ft. Cost, $75,000. William Higginson, 21 Park Row, is Arch.

NEW YORK, N. Y.—Bids are asked by C. B. J. Snyder, Supt. School Bldgs., until 11 a. m., Jan. 2, for installing heating and ventilating apparatus for the addition to Public School No. 10, on 117th St. and St. Nicholas Ave., Boro. of Manhattan.

Bids are asked by C. B. J. Snyder, Supt. School Bldgs., until 11 a. m., Jan. 8, for general construction of additions to and alteration in Public School No. 66 at Union Place, between Tulip and Walnut Sts., Brooklyn, Boro. of Queens.

NEW YORK, N. Y.—Gordon & Dushman, 275 West 117th St., New York, are the owners of the proposed four 5-story flats at 175th St. and Amsterdam Ave. Cost, $302,-000. H. T. Howell, 149th St. and Third Ave., is Arch.

Plans have been completed for an 8-story brick tenement house for Johnson Kahn & Co., 344 West 72d St., New York at 72d St. and West End Ave. Size, 70 × 87 ft. Cost, $150,000. J. E. Scharsmith, 500 Fifth Ave., is Arch.

Plans have been filed for five 6-story brick tenements on Brook Ave., between 136th St. and 137th St, New York. A. Silbermitz, 80 Willet St., New York, is owner. Cost, $250,-000. Stern & Morris, 1133 Broadway, are Archs.

Work will start immediately on the reconstruction of the new Delaware, Lackawanna & Western Railroad Co.'s new terminal at the foot of West 23d St. The frame work will be of steel. Much of the metal in the former building is serviceable. The new structure will be as nearly fireproof as it can possibly be made.

NEW YORK, N. Y.—Bids are asked by C. B. J. Snyder, Supt. School Bldgs., until 11 a. m. Jan. 2, for installing heating and ventilating apparatus in Public School No. 42 on Washington and Wendover Ave., Boro. of Bronx.

C. F. BOND (Inc.), 136 Liberty St., New York, has been awarded the general contract for the extensive alteration at 37 West 53d St. He desires bids on all sub-contracts. Barney & Chapman, 520 Fifth Ave., are Archs.

NEW YORK, N. Y.—Bids were opened Dec. 26, by C. B. J. Snyder, Supt. School Bldgs., for the general construction of Public School No. 27, on Third Ave., between 42d and 43d Sts., Boro. of Manhattan, as follows: Patrick Sullivan, 220 Grand St., New York, $446,000; Geo. Hilderbrand, 38 Park Row, New York, $438,800; P. J. Brennan, 1931 Broadway, New York, $444,000; R. E. Henningham, 4 Court Square, Brooklyn, $418,700; Thos. Cockerill & Son, 147 Columbus Ave., New York, $474,500; Clarke & Stowe, 221 Greenpoint Ave., Brooklyn, $407,-000; Church Construction Co., 949 Broadway, New York, $480,000; Chas. H. Peckworth, 415 Hudson St., New York, $448,174; P. J. Walsh, 503 Fifth Ave., New York, $453,000; Buckley Realty & Construction Co., Times Bldg., New York, $456,500; H. M. Weed & Co., 124 W. 45th St., New York, $429,700.

NEW YORK, N. Y.—It is reported that W. H. Stutchbury, 144th St., and Park Ave. New York, will erect two large apartment houses at 139th St. and St. Nicholas Ave.

Charles T. Barney, 71 Broadway, is reported to be interested in the construction of 12-story office building on the site of the old Brunswick Hotel on Fifth Ave., between 26th and 27th Sts., New York. The cost will be $1,000,000.

Plans have been filed for a 6-story brick apartment house at 160th St. and Fort Washington Ave. H. T. Buhnan is owner. Schwartz, Gross & Marcus, 35 West 21st St., New York, are Archs.

Bids were opened Dec. 26, at the office of C. B. J. Snyder, Supt. School Bldgs., for the sanitary work and gas fitting in Public School No. 151 on Knickerbocker Ave. between Halsey and Weirfield Sts. Jas. Harley, 288 Flatbush Ave., Brooklyn, submitted the lowest bid at $10,900.

NEW YORK, N. Y.—Plans have been filed for a 6-story flat at 109th St. and Amsterdam Ave. for the Lester Realty Co., of 2790 Broadway. Geo. F. Pelham, 503 Fifth Ave., New York, is Arch. Cost, $56,000.

Plans are completed for five 6-story flats and stores, 39 × 90 ft., on Lenox Ave., between 143d and 144th Sts., New York, for M. Frank, 19 West 115th St. G. F. Pelham, 503 Fifth Ave. is Arch. Cost, $270,000.

Janpole, Werner & Janpole, 206 Broadway, are taking figures on a new apartment house on 178th St. and St. Nicholas Ave. J. Hauser, 360 West 125th St., New York, is Arch. Cost, $75,000.

Plans have been filed for two 6-story flats and stores, 49 × 87 ft., for Berlinger & Greenberg, 335 East Sixth St., New York. Bernstein & Bernstein, 24 East 23d St., are Archs. Cost, $100,000.

NEW YORK, N. Y.—Plans are complete for a 6-story tenement house for the Moorehead Realty & Construction Co., 718 East 142d St., New York. H. T. Howell, 149th St. and Third Ave. is Arch. Cost, $60,000.

Plans have been completed for an extensive alteration to the old A. T. Stewart store at Broadway and Ninth and Tenth Sts., owned by the A. T. Stewart Realty Co. and leased to John Wanamaker. The three Broadway entrances are to be enlarged, seven passenger elevators will be installed, new staircases erected and windows improved. Cost, $50,000. D. H. Burnham & Co., 1417 Railway Exchange Bldg., Chicago, Ill, are Archs.

Plans have been completed for a new 6-story and basement building for the New York Red Cross Hospital on 100th St. and Central Park West. Size 34 × 66 ft. Cost, $60,000. R. N. Anderson, 63 Fifth Ave., is Arch.

NEW YORK, N. Y.—Plans are out for figures on separate contracts for the new building at 311 to 319 West 43d St., New York, for Charles and Arthur H. Scribner. It will front 125 ft. on 43d St., and is 100 ft. deep. Cost, $300,000. Ernest Flagg, 35 Wall St., is Arch.

BROOKLYN, N. Y.—Plans are completed for the new board of health building on Fleet Place and Willoughby and Fleet Sts., Brooklyn. Size, 68 × 115 × 102 × 184 ft. B. L. Gilbert, 50 Broadway, New York, is Arch.

Bids are asked by C. B. J. Snyder, Supt. School Bldgs., until 11 a. m., Jan. 2, for installing heating and ventilating apparatus in Public School, No. 92, on Robinson St., near Rogers Ave., Boro. of Brooklyn. Also for installing electric equipment in Public School No. 151 on Knickerbocker Ave., between Halsey and Wierfield Sts., Brooklyn.

Bids were opened Dec. 20, at the office of Martin W. Littleton, Pres. Boro. Brooklyn, for the erection of a public bath on Fourth Ave. and President St., Boro. of Brooklyn, as follows: (1) for lump sum for whole work; (2) for 5,000 lin. ft. piles; (3) 20,000 ft. timber for caps, &c.: Buckley Realty & Construction Co., Times Bldg., New York, $175,000 informal; Thomas G. Carlin, 4 Court Square, Brooklyn, (1) $159,796, (2) 80 cts. (3) 70 cts.; Church Construction Co., Fuller Bldg., New York, (1) $189,000, (2) 25 cts., (3) $1; D. J. Ryan, 723 Third Ave., Brooklyn, (1) $181,280, (2) 30 cts., (3) 50 cts.; Kelly & Kelly, 45 East 42d St., New York, (1) $181,280, (2) 30 cts., (3) 50 cts.; Clarke & Stowe, 229 Kent St., Brooklyn, (1) $155,-000, (2) 20 cts., (3) 90 cts.

FLUSHING, N. Y.—Bids were opened at the office of C. B. J. Snyder, Supt. School Bldgs., Dec. 26, for installing the heating and ventilating apparatus in Public School No. 20, Flushing, Boro. of Queens. F. Hagney & Co. submitted the low bid of $9,388.

NIAGARA FALLS, N. Y.—BRASS BROS. have been awarded the contract for constructing the new $65,000 Catholic church here. Schmill & Gould, 400 Law Exchange, Buffalo, are Archs.

OSWEGO, N. Y.—It has been voted to erect a new $50,000 school building here.

SYRACUSE, N. Y.—The congregation of the University Ave. Methodist Church at East Genessee St. and University Ave. is planning the erection of a new church. Cost, $100,000.

BUFFALO, N. Y.—Carl T. Chester is interested in the new building of the Buffalo Orphan Asylum proposed for Delaware Park vicinity.

Tentative plans have been prepared by George Cary, Arch., 184 Delaware Ave. Buffalo, for a gate and office building at the Delaware Ave. entrance to Forest Lawn Cemetery. William H. Glenny is Chn. Com.

HOBOKEN, N. J.—The contract for the erection of the Delaware, Lackawanna & Western Railroad Co.'s terminal here has been awarded to SNARE & TRIEST, 143 Liberty St., New York.

BAYONNE, N. J.—It is reported that a new $50,000 Y. M. C. A. building is to be built here.

RUTHERFORD, N. J.—Plans are in progress for a school on Fiperport and Chestnut Sts. Size 100 × 100 ft. D'Oench & Yost, 289 Fourth Ave., New York, are Archs.

HOBOKEN, N. J.—Revised plans have been completed for a new school building at Second and Monroe Sts., Hoboken, N. J. Building will be brick and stone, 2-stories, 125 × 135 ft., and will have 22 class rooms. Eugene Ciccarelli, of Hoboken, is Arch.

HAZLETON, PA.—It is reported that the Lehigh Valley Railroad Co. will erect a new passenger station here.

CUMBERLAND, PA.—It is reported that the Baltimore & Ohio Railroad Co. will erect a passenger depot here soon.

WILKES-BARRE, PA.—It is reported that a new jail is being planned for this city.

DERRY CHURCH, PA.—The Philadelphia & Reading Railway Co. has plans for a new depot at this place.

PHILADELPHIA, PA.—Bids are asked until 11 a. m., Jan. 23, for building boiler house and chimney. (Advertised, Engineering News.)

Representative McCreary has introduced a bill in the House of Representatives providing for a $2,500,000 custom house for Philadelphia.

It is reported that the present site of the old Keystone Hotel at Market and 16th Sts., will soon be occupied by a new $1,000,000 hotel.

H. D. PRETTYMAN has secured the contract for erecting the amphitheatre for the Tuxedo Club.

ALTOONA, PA.—It is reported that the First Methodist congregation of this city will erect a new $100,000 church here. J. L. Kester can inform.

PITTSBURG, PA.—The congregation of the Third United Presbyterians contemplate the erection of a new $100,000 church on Northumberland Ave.

DOVER, DEL.—Contracts for the new building for St. Elizabeths Convent were awarded as follows: Robt. Dalglish, of Morristown, N. J., was awarded the carpentry; A. Corbett, Madison, N. J., was awarded the masonry, and the New Jersey Engineering & Construction Co., of Trenton, N. J., has the electric wiring.

WILMINGTON, DEL.—A new building is to be erected in connection with the Homeopathic Hospital here. Mrs. E. W. Weldin is Pres. Bd. Mgrs.

BALTIMORE, MD.—It is reported that Chas. W. and John J. Hurst have purchased a site on Cathedral and Chase Sts., where they will erect a 6-story apartment house. Plans are already started.

Preliminary drawings have been completed for a new wing to the Maryland Penitentiary, for which the Legislature will be asked to appropriate $225,000.

WASHINGTON, D. C.—Bids are asked by Elliott Wood, Supt., until Jan. 17, for the entire cut stone work for the rotunda section, office building of the House of Representatives.

Bids are asked by Jas. Knox Taylor, Supervising Arch., until 3 p. m., Jan. 4, for the complete construction of a postoffice building at Natchitoches, La.

WASHINGTON, D. C.—Bids were opened for the construction of a public convenience station at Seventh and Pennsylvania Aves., but they were far in excess of the appropriation and all were rejected. Bids will be readvertised soon. Specifications will be issued at about the same time for a public convenience station at 13th St. and Pennsylvania Ave, below the level of the street.

Bids were opened Dec. 20, at the office of the Chief Clerk of the Navy Department for the construction of foundations for the first experiment station, Annapolis, Md., as follows: Noel Construction Co., of Baltimore, Md., $76,000; Latta & Terry Construction Co., Camden, N. J., $68,990.

SEWELLS POINT, VA.—The contract for the administration building for the Jamestown exposition has been awarded to the HENLEY-CASEY CO., of Norfolk Va., for $63,339.

ATLANTA, GA.—Plans have been completed by Morgan & Dillon, Archs., Prudential Bldg., for the new $75,000 building for the Atlanta College of Physicians and Surgeons, on Butler and Armstrong Sts. Size, 100 × 150 ft.

AUGUSTA, GA.—It is [illegible] that the Board of Education is [illegible] a new school building in [illegible] plans for Ward.

MACON, GA.—Bids are [illegible] tees of the Georgia State [illegible] the Trus- Blind, until Jan. 4, for [illegible] tion of a building 165 × 310 ft. [illegible] exander Blair, Macon, is A[illegible] is Chn. Com.

OGLETHORPE, GA.—Bid[illegible] N. D. Berkeley, Q. M., until [illegible] asked by Jan. 15, for the construction of h[illegible] quartermaster's stable and w[illegible] ached.

GAINESVILLE, FLA.—The[illegible] the construction of two univ[illegible] for the state board of control [illegible] buildings T. HADLOW & CO., of Jack[illegible] let to W[illegible] Fla.

PENSACOLA, FLA.—W. A[illegible] is ar- ranging for the erection of [illegible] fireproof office building to co[illegible] cemetery

JACKSONVILLE, FLA.—B[illegible] by the Board of Public Work[illegible] asked Jan. 26, for furnishing all [illegible] p. m. rials for the erection of a ja[illegible] and mate- lean is Engr. Prin-

MOBILE, ALA.—The Gulf [illegible] Co. has obtained a permit for the [illegible] tion of a union passenger station on [illegible] ard, be- tween Royal and St. Joseph S[illegible] cost to be $250,000.

JASPER, ALA.—It is rep[illegible] that the county commissioners are [illegible] ring the question of a new court hou[illegible] Walker county to cost from $50,000 [illegible]

BIRMINGHAM, ALA.—Th[illegible] creation of the Five Points Methodi[illegible] here will erect a new $70,000 ch[illegible] R. S. Munger is Chn. Com.

OPELOUSAS, LA.—Opelous[illegible] provement & Development Co. has let con[illegible] to VEN- TRE & PULFORD for erecti[illegible] a three- story brick hotel to cost $50,000.

SPARTA, TENN.—It is rep[illegible] that a $50,000 postoffice building will be erected here.

TOLEDO, O.—It is stated that [illegible] plans for a 3-story arcade building on Elm [illegible] are near- ing completion. Cost, $300,000. H. W. Wachter, 701 The Nasby, is Ar[illegible]

CINCINNATI, O.—Plans have been sub- mitted for a new opera house [illegible] Seventh St., for John J. Ryan. Boll & Taylor, Fourth and Walnut Sts., are Archs.

COLUMBUS, O.—It is reported that Chas. Lane of the Central Lumber Co. is inter- ested in the erection of a $200,000 theater on Broad St.

SURINGFIELD, O.—It is reported that the Cleveland, Cincinnati, Chicago & St. Louis Railroad Co., is contemplating the erection of a new passenger depot here. Cost, prob- ably, $200,000.

MIDDLETOWN, O.—McCarthy & Ward, of this city are considering the erection of a new theater here.

CINCINNATI, O.—Plans are in progress for a residence for Louis P. Fick on Madison road. The property has a frontage of 215 ft. and is 400 ft. deep. Tietig & Lee, 528 Walnut St., Cincinnati, are Archs.

Plans are in progress for a $100,000 build- ing on Gilbert Ave. for the Emerys. Jos G. Steinkamp & Bro., Mercantile Bldg., are Archs.

KOKOMO, IND.—It is reported that a new church is contemplated for the local Catholic parish. Rev. Francis Lordman is interested.

BEDFORD, IND.—It is reported that Dr. Gaynon intends to build a new hotel here. Cost, $75,000.

MUNCIE, IND.—The contract for the construction of the interurban terminal station here was awarded to JOSEPH SNYDER.

MONTICELLO, IND.—RICKMAN & SONS, of Kalamazoo, Mich., have been awarded the contract for the new school building at a cost of $60,000.

CHICAGO, ILL.—The Board of Education has authorized the erection of a new 24-room school building at Perry and Granville Sts. Cost, $175,000.

GALESBURG, ILL.—It is reported that the Chicago, Burlington & Quincy Railroad Co. will erect a new passenger station here at a cost of $150,000.

AMES, IA.—The plans of Proudfoot & Bird, Archs., of Des Moines, have been accepted for the new agricultural hall for the Iowa state college.

FAIRMONT, MINN.—The contract for building the new court house here was awarded to J. B. NELSON & CO., of Mankato, for $88,075. Bell & Detweiler, of Minneapolis, are Archs.

FORT ROBINSON, NEB.—Bids are asked by H. C. Whitehead, Q. M., until Jan. 10 for the construction of a bakery, hay shed quartermaster's workshop, squadron blacksmith shop and four sets stable guard houses.

NATIONAL MILITARY HOME, KAN.—Bids are asked by Maj. W. W. Martin, Treas. until noon Jan. 9, for all material and labor necessary in the construction of chaplain's quarters except excavating, grading and basement walls.

DEADWOOD, S. DAK.—It is reported that J. C. Burrichter will erect a new theater here at a cost of $60,000.

HILLSBORO, N. DAK.—Bids are asked by the County Auditor of Trail county until 2 p. m. Jan. 8, for erecting a new court- house. Buechner & Orth, St. Paul, Minn., are Archs.

ST. LOUIS, MO.—H. F. Roach, Arch. Chemical Bldg., is preparing plans for an 18-story office building for the St. Louis Real Estate Trust Co. at a cost of $[illegible]. the building to be 100 × 125 ft., brick, stone and terra cotta, fireproof con[illegible]uction. Cope & Stewardson, Archs., 319 N. Fourth St., have completed plans and are receiving bids on two-story dormitory (west w[illegible] 44 x 133 ft., and a two-story dormitory (north- west wing), 37 × 184 ft., for W[illegible]ington University; both buildings to be [illegible] brick

and stone, slate roof, and equipped with gas and electric fixtures, costing $80,000 and $50,000, respectively.

Holbrook, Cabot & Rollins Co. has had plans prepared by H. F. Roach, Arch., Chemical Bldg., for the erection of proposed store and office building; to be 10 stories, of brick, terra-cotta and steel fireproof construction, with composition roof, hard plaster and modern plumbing; cost, $2,000,000.

BOLIVAR, MO.—THE ATLAS CONSTRUCTION Co. of St. Louis, has been awarded the contract for the construction of the new court house at this place.

SAN ANTONIO, TEX.—Bids are asked until noon, Dec. 26, for construction, plumbing, heating and electric wiring of various buildings at Fort Logan H. Roots, Ark. Robert E. Stevens, Ch. Q. M. (Advertised, Engineering News.)

BEAUMONT, TEX.—It is reported that John B. Goodhue will erect a 4-story brick hotel at a cost of between $200,000 and $250,000.

WACO, TEX.—Bids are asked by M. W. Scott and Glenn Allen, Bldg. Com., until Jan. 2, for the construction of the Baptist Church on Seventh and James Sts.

SEATTLE, WASH.—JAMES BOYLE has been awarded the contract for the $75,000 apartment house on Boren Ave. for Donaldson Bros. E. A. Miller, Seattle, is Arch.

KENNETT, CAL.—The contract for the new school building in this place has been awarded to GEORGE TYLER.

WATER SUPPLY—IRRIGATION.

The names of parties awarded contracts are printed in capital letters.

BRATTLEBORO, VT.—W. H. Brainerd, Engr., of Palmer, Mass., has submitted a report on the water question to the water committee.

SALEM, MASS.—Freeman C. Coffin, Consult. Engr., Boston, has recommended to the Salem water board three plans for improving its water supply. One provides for a filtration plant, to cost $318,000, and another for connection with the Metropolitan water supply system, or the tapping of Ipswich River and boring of artesian wells. The latter plan would cost about $143,000. He recommends that a small filtration plant be established for experimental purposes, at a cost of about $5,000. David N. Cook is Supt. Water Dept.

CANASTOTA, N. Y.—On Dec. 18 the $89,000 registered refunding water-works bonds were awarded to W. J. Hayes & Sons, of Cleveland.

TROY, N.Y.—Bide were opened Dec. 19 for work in connection with constructing a municipal filtration plant. For excavation, T. H. Dumary & Co. was lowest bidder at $9,512; for pipe laying, the same firm was lowest bidder at $51,142; for stand-pipe, the Chicago Bridge & Iron Co. was lowest bidder at $24,926; for pumping plant, the H. R. Worthington Co. was lowest bidder at $45,279; for filter plant, T. H. Dumary & Co. was lowest bidder at $229,889; for duplication of crossings, T. H. Dumary & Co. was only bidder at $17,789.

ROCHESTER, N. Y.—H. B. Mingle, Pres. Rochester & Lake Ontario Water Co., is reported to have stated that an extension of the company's lines into Irondequoit had been decided upon. Noted on Dec. 21.

YONKERS, N. Y.—Bonds have been sold for $75,000 to be expended in connection with the water supply.

MALONE, N. Y.—The town has voted to purchase the plant of the Malone Water-Works Co. for $200,000.

LOCKPORT, N. Y.—The city has voted in favor of municipal ownership of a plant to supply the city with water. Two propositions were submitted, one to bring water from the Niagara River, 13 miles distant, and the other from Tonawanda Creek, 6 miles. The cost in each case is estimated at $500,000.

NEW YORK, N. Y.—Bids were opened Dec. 23 for supplying high pressure water mains. The bid of the Continental Asphalt Paving Co., 42 Broadway, New York, was lowest for all three sections of the work at $2,824,283. Other bidders were Frank Bradley, John Cornwall, Jr., the Borough Construction Co., the Williams & Gerstle Engineering Co., the Williams Engineering Co., the John J. Hart Co. and Gallo & Petello.

ORANGE, N. J.—Plans have been drawn up for a new covered reservoir and filtration plant. The reservoir will have a capacity of 3,000,000 gallons, and be placed near South Orange Ave., at an elevation of 470 ft. Rudolph Hering, Engr., 170 Broadway, New York, has submitted the plans.

SALEM, N. J.—Council has decided to abandon the water plant at Quinton and establish a pumping station nearer Salem.

ROXBURY, PA.—A company will be incorporated to supply this town with water. Henry M. Harman is interested.

NORFOLK, VA.—The contract for the installation of a water-works system for the Marine Corps and officers' quarters at this place has been awarded to the PENN. BRIDGE CO., Beaver Falls, Pa. The bid of this company was $11,900. It was subject to many modifications and deductions, and final price has not yet been agreed upon. The bids under the other form—for "additional work"—have been rejected, and will be readvertised shortly. Bids were opened Nov. 10, 1905, as noted in Engineering News on Nov. 16.

SHENANDOAH, VA.—Bids are asked by D. S. Louderback, Mayor, and Council, care A. E. Martin, Town Clk., until 7.30 p. m., Jan. 2, for the construction of a water plant.

LAURINBURG, N. C.—City has voted to issue $45,000 of bonds, a portion of which will be used for water-works improvements. P. L. Ruudy is Mayor.

COCHRAN, GA.—Bonds have been sold for $11,000 to be used in connection with water plant.

HATTIESBURG, MISS.—See under Streets and Roads.

SAVANNAH, GA.—Council has decided to expend $25,000 in improvements to the water system.

PERRY, FLA.—It is stated that system of water-works will be established here. Address the Mayor for information.

GUNTERSVILLE, ALA.—Reports state that a water-works system will be established here.

HAMMOND, LA.—Bids were opened Dec. 15 for the construction of the water-works and drainage systems in Hammond. The following were successful: Construction work, ROY STOOKEY, of Bellyville, Ill.; pipe, UNITED STATES CASTIRON PIPE & FOUNDRY CO., of Pittsburg, Pa.; hydrants and valves, HERRON PUMP & FOUNDRY CO., of Chattanooga, Tenn.; tower and tank, DES MOINES BRIDGE & IRON WORKS, of Des Moines, Ia.; artesian wells, ED. C. WAY, of Hammond.

BRISTOL, TENN.—Engineers are now making surveys for a joint water system to be used by Bristol, Va., and this city. Bonds will probably be voted on in two or three months.

WOOSTER, O.—The question is being agitated of holding an election to vote on the question of issuing $50,000 water-improvement bonds.

NILES, O.—Bids for the construction of improvements to the water-works and electric light plant will shortly be received. B. L. Hogan, City Auditor. Bonds to the amount of $20,000 have been sold.

NOBLESVILLE, IND.—It is reported that bids will soon be received by the Noblesville Hydraulic Co. for the construction of a dam across White River. Cost, $150,000. R. C. Beardsley, Chief. Engr., Schofield Bldg, Cleveland, O.

FRANKFORT, IND.—Local press reports state that the city will advertise soon for bids for an entire new water system.

SPRINGFIELD, ILL.—The Business Men's Association are agitating the question of a better water supply.

CONNERSVILLE, IND.—F. Gray, Mayor, writes us that the city will shortly advertise for bids for a water system, which will include construction of a reservoir and furnishing a 25,000,000-gallon high duty pumping engine, boilers, etc. E. M. Carr, Newcastle, Ind., is Engr.

MANITOWAC, WIS.—F. W. Capperas, of Minneapolis, is working with the city engineer in preparing plans for a new municipal water-works plant. Estimated cost is $180,000.

BURT, IA.—This town on Dec. 12 authorized the issuance of $7,000 of water-works bonds.

WATERLOO, IA.—Council is considering municipal ownership of water-works. C. T. Wilson is City Engr.

MINNEAPOLIS, MINN.—Bids are asked until Jan. 12 for supplying various materials for water-works construction. Also for the purchase of old pumping machinery, etc., in Station No. 1. Andrew Rinker, City Engr.

CLINTON, MINN.—Bonds will be offered for sale in accordance with vote recently passed providing for issuance of $6,000 of water-works bonds.

MANKATO, MINN.—See under Sewerage.

LINCOLN, NEB.—Bids are asked until 2 P. M. Jan. 15, for furnishing a high-duty pumping engine complete, ready for service, including water and steam connections. Bidders may obtain copies of the specification by sending to George L. Campen, City Engr. The engineers' estimate of the cost is $16,500. Specifications are on file at the office of Engineering News, 220 Broadway, New York.

BILLINGS, MONT.—W. D. Lovell, of Minneapolis, was the lowest bidder for the Glendive Irrigation canal, at $150,000.

ST. LOUIS, MO.—Bids are asked until Jan. 19 for supplying furnishings to water-works. W. B. Dryden, Secy. Bd. Pub. Improvements.

MONETT, MO.—J. E. Clinton, Supt. W. W., writes us that bids will probably be opened in 30 days for improvements to water system.

OSCEOLA, ARK.—Bids are asked until Jan. 10 for the construction of a system of water-works. Address Board of Improvement.

HOUSTON, TEX.—Hardeman County Irrigation Co. has been incorporated with $50,000 capital stock by J. S. Rice, W. M. Rice, Cecil A. Lyons and Frank Andrews to operate an irrigating plant.

LONGVIEW, TEX.—The city will put in a system of water-works at a cost of $27,000. Address the Mayor for information.

BROWNWOOD, TEX.—Council has decided to purchase a large tract of land with the idea of building a dam and moving the pumping station.

MEXIA, TEX.—It is reported that $50,000 water-works system is to be established here. The Mayor can give information.

HOBART, OKLA.—The proposition to issue $25,000 of water-works extension bonds was carried at the election held Dec. 12.

WATONGA, OKLA.—It is reported that the city has voted in favor of the proposed issuance of $10,000 of bonds for extending water-works.

ALTUS, OKLA.—The city will hold an election in January to decide the question of issuing bonds for water-works and electric light plant.

OKMULGEE, IND. T.—We are advised that Burns & McDonnell, Kansas City, Mo., are preparing plans and specifications for extensions to the water system here.

CHICKASHA, IND. T.—Town will vote on issuance of $60,000 bonds on January 16th for water and sewer extensions. Burns & McDonnell, Kansas City, Mo., are preparing plans and specifications.

LAJUNTA, COLO.—Plans and specifications are being prepared for improvements to the water supply and extensions. Burns & McDonnell, Kansas City, Mo., are Engrs.

BRUSH, COLO.—We are informed that C. H. Meeker, McCook, Neb., has prepared plans for a water system here to be erected next spring. W. E. Smith is Mayor.

CARLSBAD, N. MEX.—The secretary of the interior conditionally has approved the expenditure of $600,000 for the Pecos valley reclamation project at Carlsbad, on the Santa Fe Railroad. The proposition is to dam the Pecos River and furnish irrigation for 20,000 acres during the season of 1906. It is stated that the government proposes to purchase the ditches and property of the Pecos Irrigation Co., and expects to spend $450,000 in the construction of the dam.

WALLA WALLA, WASH.—The Commerce Club has appointed a committee to investigate financing the proposed new water system.

SEATTLE, WASH.—Bids are asked until 11 A. M., Jan. 16, for the construction of a 150,000-gallon steel tank on a 75-ft. trestle at Fort Lawton, Wash. Capt. F. A. Grant, Q. M.

DUFUR, ORE.—Bids are asked until 1 P. M., Jan. 12, for supplying various pipes, hydrants, valves, etc. E. A. Griffin, Secy. Bd. Water Comrs.

ALBANY, ORE.—The light and water plant of the Albany Canal & Water Co. has been sold to Rhodes, Sinkler & Butcher, of Philadelphia, who already own the Salem and Eugene light and electric traction plants and are now building the new electric system between Salem and Portland. Great improvements will be made immediately. A filtering station will be put in outside this city, where 2,000,000 gallons of water will be filtered daily.

SAN BERNARDINO, CAL.—The contract for supplying water mains on ten blocks has been awarded to the GEO. M. COOLEY CO.

REDLANDS, CAL.—The Rancho Verde was recently sold to a syndicate by E. C. Sterling and Reginald Frost, of this city. The syndicate acquired water rights of all ranches on the Mojave River and propose to impound waters and tunnel mountains in connection with the big irrigation scheme. They take possession of the property April 15, and will expend $5,000,000.

ANAHEIM, CAL.—See under Light, Heat and Power.

SAUSALITO, CAL.—The Sausalito Spring Water Co. has been incorporated for the purpose of handling waters within the State for any and all purposes; to construct or acquire and maintain or dispose of reservoirs, pipe lines, pumping and power plants. The directors are L. M. Hickman and W. B. Gilbert, of Sausalito; Harry Hyland, J. R. Roach and G. W. Hollister, of San Francisco.

REXBURG, IDAHO.—An election will be held Jan. 8 to vote on the question of issuing $25,000 of water bonds.

PROVO CITY, UTAH.—It is reported that plans and specifications will be prepared by Frank C. Kelsey, of Salt Lake City, Utah, for the construction of the proposed water-works and electric light plant. Bonds to the amount of $91,000 were recently sold for same.

VERNAL, UTAH.—The Dry Gulch Irrigation Co. has been incorporated, capital $200,000. R. S. Collett, N. G. Holmes, N. J. Meagher are officers.

SEWERAGE.

The names of parties awarded contracts are printed in capital letters.

BOSTON, MASS. — Contract has been awarded by the Bureau of Yards & Docks, Navy Dept., for vitrified sewer-pipe, drains and accessories for the Navy Yard, Boston, Mass., to C. M. LEACH, Navy Yard, Boston, for $6,983. Noted Dec. 21.

D. F. O'Connell Co., Dorchester, Mass., was lowest bidder for building Dorchester Brook sewer in Dorchester, Mass., for the city of Boston, at $30,974.

BUFFALO, N. Y.—The contract for the construction of a sewer in South Park Ave. has been awarded to JOHNSON & MUMM.

NEW YORK, N. Y.—Bids are asked for constructing several sewers until 3 P. M., Dec. 28. J. F. Ahearn, Boro. Pres.

WILMINGTON, DEL.—A 15-in. sewer is to be constructed in Tenth St.

KEYSER, W. VA.—This city will offer $20,000 of street and sewer bonds for sale Dec. 30.

ASHEVILLE, N. C.—B. M. Lee, City Engr., will shortly advertise for bids for constructing a sewer system on Montfort Ave.

ATLANTA, GA.—Bids are asked until Jan. 1, for constructing extension of Orme St. trunk sewer. R. M. Clayton, City Engr.

WEST PALMBEACH, FLA.—It is reported that the city will arrange at once to have surveys made for extending the sewer system. The mayor may be addressed.

PENSACOLA, FLA.—T. C. Hatton of Wilmington, Del., is Consult. Engr., on new system of sewers to be installed shortly. C. H. Bliss is Mayor.

HATTIESBURG, MISS.—See under Streets and Roads.

SHELBY, MISS.—It is stated that city will issue bonds for construction of a sewer system.

CINCINNATI, O.—Plans and specifications have been drawn up by J. E. Breen, City Engr., for a number of sewers. Estimated cost, $28,800.

YOUNGSTOWN, O.—Bonds will be offered on Jan. 8 for $7,200 to be used in sewer construction. F. M. Lillie is City Engr.

COSHOCTON, O.—THOMAS BURRELL has been awarded the contract for constructing a sewer in 15th St.

CLINTON, IND.—The construction of a sewer system is being considered by Council. Estimated cost, $75,000.

INDIANAPOLIS, IND.—The board of public works is preparing to ask for bids for a sewer in Bluff Ave. B. J. T. Jeup is City Engr.

PRINCETON, IND.—We are informed that plans will be ready about March 1 for sanitary and storm sewer system. Noted Nov. 30.

HART, MICH.—F. F. Wetmore, County Surv., Pentwater, Mich., writes us that he is preparing plans for a sewer in this village from 3,000 to 5,000 ft. in length and desires prices on round and egg-shaped tile, trap, covers, sewer jacks, etc., from Western houses. It is not yet fully decided whether the village will hire the labor or let the work to a contractor.

EAST ST. LOUIS, ILL.—W. J. Crocken, City Engr., estimates the cost of the new pumping station and outlet sewer at $758,000.

IDAGROVE, IA.—Plans have been prepared by Prof. A. Marston of Ames, Ia., for the construction of a $35,000 sewer system, it is reported.

MINNEAPOLIS, MINN.—Carl Hilstrup, City Sewer Engr., has prepared plans for a large trunk sewer to drain about 3,600 acres. Estimated cost, $400,000.

MANKATO, MINN.—Council is discussing the proposed extension of the city sewer and water mains from Franklin and Broad Sts. to the Tourtelotte hospital site. J. R. Thompson is City Engr.

HARPER, KAN.—Plans are being considered for a sewer system to cost about $6,000.

KIRKSVILLE, MO.—The Council has voted that an election be held in January, 1906, to vote on the proposition to issue $40,000 of bonds, to construct a public sewer system and septic tank purification and disposal works; according to plans and specifications prepared by Stephen Hall, City Engr.

OSCEOLA, ARK.—It is stated that a sewer system will be established here at a cost of $30,000.

HOT SPRINGS, ARK.—The citizens of South Hot Springs are discussing the question of a new sewer system for that part of the city. R. B. Sigman has been appointed Chn. of the Sewer Com.

MARSHALL, TEX.—The city is considering the purchase of the main line of the sewer system with terminal facilities.

FORT WORTH, TEX.—J. W. Maxey, Houston, Tex., is preparing plans for a sewage-purification plant for the stockyards of the Armour and Swift companies at North Fort Worth. Estimated cost is stated to be $200,000.

SAN ANGELO, TEX.—A franchise has been granted to the San Angelo Sewer Co. to construct and maintain a sewer system in this city. N. P. Kelly of Gainesville; H. Jackson, and C. C. Kirkpatrick of San Angelo are members of the company.

SAN ANTONIO, TEX.—See under Streets and Roads.

OKMULGEE, IND. T.—See under Water-Works.

CHICKASHA, IND. T.—See under Water-Works.

TACOMA, WASH.—Plans for the big trunk line sewer to South Tacoma have been nearly completed and William Welsh, Comr. Pub. Wks., states that the construction of the sewer will be started about the first of the year.

SAN JOSE, CAL.—C. H. Pieper, City Engr., informs us that bonds will be issued for $175,000 for sewer construction purposes.

OAKLAND, CAL.—The board of works has awarded the contract for sewer in East 22d St. from the railroad tracks to the bay to FRED. DAHNKE for $6,029.

MELROSE, CAL.—The Melrose Sanitary District, Alameda County, has authorized the issuance of $31,000 5% 20-year sewer bonds. Proposals for these bonds will be received at any time by John McDonald, Secy.

FRESNO, CAL.—It is stated that $175,000 of sewer bonds have been sold. I. Teilman is City Engr.

SALT LAKE CITY, UTAH.—Bids are asked until 3 P. M., Jan. 4, for constructing storm sewer. E. A. Wall, Chn. Bd. Pub. Works.

WEISER, IDAHO.—This city will issue bonds for sewer improvements. S. H. Travis is City Clk.

GARBAGE DISPOSAL.

The names of parties awarded contracts are printed in capital letters.

CHESTER, PA.—Bids are asked until 7.30 P. M., Jan. 1, for gathering ashes, garbage, etc., for the period of one, two or three years. Z. T. Bartleson, Chn. St. Com.

NORFOLK, VA.—Council is considering new methods of garbage disposal.

RACINE, WIS.—Bids are asked until 1.30 P. M., Jan. 13, for constructing and installing a garbage disposal plant, either a crematory or a reduction plant, capable of disposing of 25 tons of garbage daily. P. H. Connolly, Chn. Bd. Pub. Wks.

HOT SPRINGS, ARK.—The Hot Springs Sanitary & Fertilizing Co. has been organized to erect a garbage disposal plant. Reb. Houpt is interested.

STREETS AND ROADS.

The names of parties awarded contracts are printed in capital letters.

BROOKLYN, N. Y.—The contract for the paving of Livingston St. with asphalt blocks has been let to the BROOKLYN ALCATRAZ CO., 407 Hamilton Ave., Brooklyn, whose bid of $12,0.. was the lowest.

SYRACUSE, N. Y.—We are advised that bids were received on Dec. 18 as follows for paving Tully St. from West to Seneca Sts. with natural asphalt: Warren Asphalt Pav-

ing Co., Utica, N. Y., $20,545; Central City Paving Co., Syracuse, $20,071; F. J. Baker, Syracuse, $21,684; Warner-Quinlan Paving Co., Syracuse, $21,411.

Bids were received on Dec. 18 also for asphalt sheet pavement on Park Ave., from Geddes to Liberty Sts., as follows: Warren Asphalt Paving Co., Utica, total, with brick in railroad strip, $9,168; with sandstone in railroad strip, $9,738; F. J. Baker, brick, $9,540; sandstone, $10,125. Warner-Quinlan Paving Co., brick, $8,866; sandstone, $9,446. Central City Paving Co., brick, $9,339; sandstone, $10,041. For paving Park Ave. with asphalt block: Warner-Quinlan Paving Co., $9,183 and $10,626. Frank J. Schnauber is City Engr.; H. B. Brewster is Asst. City Engr.

ALBANY, N. Y.—The bids were opened by the Renssalaer Common Council for paving Riverside Ave. with macadam. Martin Murray, of Troy, was lowest bidder at $8,382.

BROOKLYN, N. Y.—The Shore road from First Ave. to Fort Hamilton is to be rebuilt, and $1,875,000 has been appropriated.

YONKERS, N. Y.—$20,000 of bonds for highway improvement have been sold.

NEW YORK, N. Y.—The Board of Estimate has appropriated $100,000 for the addition to the Riverside Drive extension at 181st St.

HOLLIDAYSBURG, PA.—W. H. HERR & SONS, Altoona, Pa., were awarded the contract, at $40,768, for the construction of 21,200 ft. of road.

HAZELTON, PA.—Ordinances have been introduced in council for providing for pavement of a number of streets with brick.

PITTSBURG, PA.—Ordinances have been passed which call for paving Commercial St. and Birmingham road. E. M. Bigelow is Dir. Dept. Pub. Works.

SUNBURY, PA.—FISS & HARTMAN, of Shamokin Dam, Pa., have been awarded the contract for building the new state road from Sunbury to Rockefeller township.

ROANOKE, VA.—Bonds have been voted for street improvements to the extent of $175,000.

PULASKI CITY, VA.—A contract for constructing granolithic sidewalks has been awarded to C. R. SCHARF & CO., of Bristol, Va. Cost is estimated to be $7,000.

LAURINBURG, N. C.—It is reported that the city has voted in favor of issuance of $45,000 of bonds for public improvements. F. L. Bundy is Mayor.

ROCKINGHAM, N. C.—Issuance of $15,000 of road bonds will shortly be made. H. S. Ledbetter is Chn. Comrs.

DURHAM, N. C.—The city expects to do extensive work in street construction next year. Gilbert C. White, Engr., informs us that the work will probably not be let to contract.

DECATUR, GA.—It is stated that citizens of DeKalb County are advocating the issuance of from $200,000 to $300,000 road improvement bonds.

JACKSONVILLE, FLA.—As soon as funds are available from the sale of improvement bonds, the board of public works will start construction of brick pavements on several miles of streets. Philip Prioleau is City Engr.

UNION SPRINGS, ALA.—The contract for paving Prairie and Hardaway Sts. was awarded to J. D. ROQUEMORE, Montgomery, Ala.

HATTIESBURG, MISS.—The Council has passed an ordinance providing for a bond issue of $200,000 for public improvement purposes, $150,000 being for street paving, $35,000 for improvement and extension of the water-works system and $15,000 for the improvement of sewerage and extension of mains. The Mayor can give information.

SHREVEPORT, LA.—City has let contract to the BARBER ASPHALT PAVING CO., 161 Devonshire St., Boston, Mass., at $2.19 a sq. yd. for paving several streets.

CHATTANOOGA, TENN.—Bids are asked until Jan. 2, for paving several streets with vitrified brick. A. L. Thomas, Chn. Bd. Pub. Works.

CLEVELAND, O.—Bids are asked until 11 a. m., Jan. 10, for the completion of the North Woodland macadam road. Specifications are on file at the office of W. H. Evers, County Engr. J. C. Dorn, Clk. Bd. Comrs. Cuyahoga County.

FINDLAY, O.—Issuance has been made of $9,000 of bonds for the purpose of paving Washington St. J. W. S. Riegle is City Engr.

HAMILTON, O.—Bids are asked until noon, Dec. 28, for paving several streets with sheet asphalt, bitulithic macadam or vitrified brick. J. B. Connaughton, Clk. Bd. Pub. Service.

CINCINNATI, O.—Bids were opened Dec. 12 for paving Spring Grove Ave. for an area of about 7,000 sq. yds. The Kirchner Construction Co. was lowest bidder, at $23,238.

AKRON, O.—The contract for paving Lods St. has been awarded to E. McSHAFFREY & SON, at $10,665, specifying Akron granite block.

MICHIGAN CITY, IND.—It is stated that H. M. Miles, City Engr., is preparing plans for paving about 50,000 sq. yds. in various streets.

KNOX, IND.—Bids are asked until Jan. 13, for improving, grading and macadamizing with gravel about 20 miles of roads in Stark County. L. M. Ransbottom, County Auditor.

BLOOMINGTON, IND.—Bids are asked by the board of commissioners of Monroe county until noon, Jan. 4, for the construction of the Parks School House road in Bloomington. Plans are on file at office of S. M. Kerr, County Audr.

INDIANAPOLIS, IND.—Bids are asked by the board of public works until Dec. 28 for paving West Michigan St. with asphalt. Estimated cost, $58,000.

VINCENNES, IND.—The commissioners of Knox County will soon ask for bids for the construction of roads in Johnson and Palmyra townships. J. T. Scott is County Audr.

OWOSSO, MICH.—The council is considering plans for paving the alleys in the business district.

SAGINAW, MICH.—The Board of Estimate has approved the issuance of $18,000 of bonds for street improvement.

ALBION, MICH.—GEORGE H. KNEAL, of Lansing, Mich., has been awarded the contract for constructing six blocks of brick pavement in Michigan Ave.

KALAMAZOO, MICH.—The contract for paving Rose St. (about 10,000 sq. yds.) has been awarded to the BARBER ASPHALT PAVING CO., 17 Battery Pl., New York, and the contract for paving Edwards St. and Michigan Ave. (about 15,000 sq. yds.), has been awarded to ROY WILLIAMS. Rose St. to be sheet asphalt and Edwards St. and Michigan Ave. to be Metropolitan Block with "Pioneer" filler.

WHEATON, ILL.—Surveys are being made in connection with the extensive work of grading, paving and macadamizing proposed for next spring. C. A. Prout is City Engr.

GIBSON CITY, ILL.—A resolution has been passed by the council calling for the paving of Sangamon Ave., to cost $40,000.

GREEN BAY, WIS.—Council has reconsidered vote on material to be used in paving improvements and decided to use asphalt. Noted Dec. 14.

VERMILION, S. DAK.—Bids are asked by F. A. Erickson, Audr., Clay County, until 1 p. m., Jan. 5, for all grading the Board of County Commissioners may order during the next year.

KANSAS CITY, MO.—The Board of Public Works has decided to pave 15th St. for a distance of 8,000 ft. E. A. Harper is City Engr.

KANSAS CITY, MO.—Bonds will be offered for sale to raise $150,000 to be expended on parks and boulevards. E. A. Harper is City Engr.

SAN ANTONIO, TEX.—The citizens of Improvement District No. 11 have voted to issue $120,000 of bonds for street and sewer improvements. J. D. Rullman is City Engr.

GALVESTON, TEX.—R. W. Luttrell, County Engr., has prepared plans for a sea wall boulevard.

DALLAS, TEX.—BALL & CRADEN and JOHN A. GOOD and others, Dallas, have been awarded contract for paving to the amount of $140,000.

PARIS, TEX.—R. K. DABNEY has been awarded the contract for paving a section of North Travis St.

SEATTLE, WASH.—The contract for paving 14th Ave. and other streets has been awarded to the INDEPENDENT ASPHALT PAVING CO., 602 Bailey Bldg., Seattle, at $27,731 and for maintaining the pavement for ten years at 2½ cts. per sq. yd.

SAN JOSE, CAL.—C. H. Pieper, City Engr., writes us that the city will issue $100,000 of bonds for the improvement of Alum Rock Park and $5,000 of bonds for purchase of a rock crusher.

MONTREAL, QUE.—A boulevard, 35 miles in length and 900 ft. in width, is planned, which will traverse Montreal island. John R. Barlow is City Surv.

MANUFACTURING PLANTS.

The names of parties awarded contracts are printed in capital letters.

CHICOPEE, MASS.—It is reported that the Dwight Mfg. Co., of this place, is planning to build an extensive addition to its present plant.

PLAINFIELD, CONN.—The contract for erecting the new plant for the Lawton Mfg. Co. at this place was awarded to A. N. CARPENTER, of Norwich, Conn. The main factory is of brick, 105 × 243 ft. Other structures called for are: An engine house, a pump house, a boiler plant, an economizer and a store house. There will be a water tower, 24 × 24 ft. and 120 ft. high.

WATERBURY, CONN.—Plans have been completed for the addition to the Eagle Brewing Co.'s plant. Feeney & Jackson, 51 Leavenworth St., Waterbury, are Archs.

WATERVILLE, CONN.—It is reported that the American Pin Co., of Waterbury, Conn., will erect a new factory at this place. The cost will reach $50,000.

BUFFALO, N. Y.—It is reported that the Otis Elevator Co., 17 Battery Place, New York, have purchased 35 acres of land near Girder and Sheridan Sts., Buffalo, where an extensive plant will be erected.

BOGOTA, N. J.—THE RUGGLES-COLES ENGINEERING CO., 39 Cortlandt St., New York, has been awarded the general contract for the construction of the plant at Bogota for the Traders Paper Board Co. H. C. Miller & Co., 1 Madison Ave., New York, are Archs.

JERSEY CITY, N. J.—Plans have been completed for constructing a 3-story factory building on Essex St. for Theodore Smith's Sons' Co. J. T. Rowland, Jr., is Arch.

JERSEY CITY, N. J.—Plans are out for figures for a 5-story brick machine shop for Spindler & Deringer on Colgate and Mercer Sts. Emil Guhl, 19 Charles St., Jersey City, is Arch.

PATERSON, N. J.—It is reported that J. B. Whitney, Market St., Paterson, is contemplating the erection of a large silk mill on Totowa Ave., in this city.

PITTSBURG, PA.—It is reported that the Follansbee Bros. Co. is contemplating the erection of an open-hearth steel plant, at a cost of $250,000.

McKEESPORT, PA.—The contract for the erection of a 4-story manufacturing plant and warehouse addition, also stable at 406 Ringgold St. for the Watson Paint & Glass Co. has been awarded to S. S. VERNER. J. H. Lohman, National Bank, McKeesport, is Arch.

PHILADELPHIA, PA.—F. A. HAWES & CO., Perry Bldg., have been awarded contract for an addition to the present plant of H. Linton & Bro., at Ruth and Clear Sts.

BALTIMORE, MD.—It is reported that the Gottschalk Co., wholesale liquor dealers, 1786 North Gay St., will erect 4 or 5-story warehouse at Light and Balderston Sts., 50 × 100 ft.

Revised plans are out for figures for the construction of a 5-story factory building on Lombard St. for the Carriage & Toy Co., Calvert and Saratoga Sts. The factory will be 72 × 171 ft. Brick and stone. J. E. Lafferte, 11 East Lexington St., Baltimore, Md., is Arch.

It is reported that David Glickman, of the Red Star Shoe Co., 2022 Druid Hill Ave., will erect a new factory at 414 West Hoffman St. Henry J. Tinley, 11 East Lexington St., is Arch.

Plans have been prepared for a 6-story warehouse on West German and West Baltimore Sts. Bayard Turnbull, 12 East Lexington St., is Arch.

WASHINGTON, D. C.—Gun factory equipment. See under Miscellaneous.

LYNCHBURG, VA.—The Old Dominion Bridge & Construction Co. has been organized in this city. It is proposed to erect a large plant for the manufacture of bridges, locomotive and structural steel. Walter Pettyjohn is Pres.

NORFOLK, VA.—It is reported that the Garnett-Puckett Shoe Co. will erect a new factory here for the manufacture of shoes. O. O. Cooper, of Hinton, W. Va., is Pres. W. H. Garnett, of Norfolk, Va., is Secy.

It is reported that plans are in progress for a factory and warehouse for the American Cigar Co. on Princess Anne Ave., this city.

GRAFTON, W. VA.—The Tygart Valley Brewing Co. will erect a large brewery here with a capacity of 30,000 barrels. It is stated that about $175,000 will be invested. T. A. Deveny is Pres.

HUNTINGTON, W. VA.—The Hambrick Motor Car Co. will build a plant at this place for the manufacture of gasoline motor cars and electric and gasoline trucks with four-wheel drive. There will be two buildings, one 60 × 300 ft. and one 60 × 450 ft. Construction will be brick with concrete floors.

SPRAY, N. C.—It is reported that an addition to the present plant for the German-American Mfg. Co. is contemplated. It is planned to add 400 ft. in length and equipment in accordance.

DILLSBORO, N. C.—The Consolidated Nickel Co. will erect several buildings for the development of the nickel mines at this place. J. J. Hooker is Pres.

BELMONT, N. C.—The Imperial Yarn Mills will erect a new mill here and install 10,000 spindles for the manufacture of yarn. E. C. Lineberger is Pres.

KERSHAW, S. C.—It is reported that this city is to have a new factory for the manufacture of hollow-cement building stone. W. C. McNabb is interested.

CHARLESTON, S. C.—It is reported that John F. Maybank will erect a cotton warehouse in this city. The building will have a capacity of 25,000 bales and will cost $50,000.

SAVANNAH, GA.—It is reported that plans have been completed for the erection here of a modern packing and storage warehouse for Swift & Co., of Chicago, Ill. J. T. Taylor is Mgr.

GADSEN, ALA.—The contract for erection of the foundry for the Alabama Consolidated Coal & Iron Co. has been let to T. F. MARLOW.

MERIDIAN, MISS.—It is reported that the New Orleans & Northwestern Railroad Co. will erect two warehouses, each 50× 600 ft., at this place. J. J. Steadman, New Orleans, La., is Supt. Bldgs.

NEW ORLEANS, LA.—Plans have been completed for a new building for Audry & Bendernagle, 211 Camp St. A complete type-setting and printing equipment of the most improved style will be installed. Geo. M. Borde, M. E., is Consult. Engr.

It is reported that the Hobbs Mfg. & Stamping Co. has purchased 62 acres of land, five of which are to be used as sites for the proposed factory buildings. The main building will be 90 × 200 ft., of steel construction. Peter Jung is Pres. Fred Muller is Mgr.

It is reported that the India Pine Co. contemplates the erection of factories here for the manufacture of sash, doors and furniture. S. R. Guyther is Pres.

MEMPHIS, TENN.—The John R. Watkins Medicine Co., of Winona, Minn., has purchased a site here for a large distributing warehouse. Size 146 × 150 ft.

CENTERVILLE, TENN.—It is reported that C. W. Weaver and G. H. Ehling, of Nashville, are interested in the erection of a 100-ton mill at this place for the development of the phospbate deposits.

CHATTANOOGA, TENN.—The American Brake, Shoe & Foundry Co., 170 Broadway, New York, contemplates extensive improvements to its plant at this place.

FOSTORIA, O.—The contract for erecting the new factory for the Seneca Wire & Mfg. Co. at this place was awarded to J. H. JONES.

DAYTON, O.—It is reported that Adam Capel is contemplating the erection of a large umbrella factory here.

CINCINNATI, O.—William Lodge, of this city, is interested in the new steel plant to be erected here.

NILES, MICH.—It is reported that the plant of the Buchanan Cabinet Co., recently destroyed by fire, will be rebuilt. The new building will be a 2-story brick, 60 × 130 ft.

TORCH LAKE, MICH.—It is reported that the Copper Constructing Co., of this place, will erect a new plant here. The main building will be 70 × 122 ft., with an engine and boiler house detached.

HOLLAND, MICH.—The John J. Kinsella Co., of Chicago, Ill., will erect a new factory building here for the manufacture of glass. The new building is to be 3 stories and will cover a whole block.

WATERLOO, IA.—The contract for the erection of the new plant for the Fergusen Mfg. Co. at this place was awarded to J. W. STEWART.

CAPE GIRARDEAU, MO.—The Cape Brewing & Ice Co. has been organized here, and a brewery and ice plant will be erected.

FORT WORTH, TEX.—J. [illegible] Alexander and J. Y. Hogsett [illegible] a company to erect an ice [illegible] plant, to cost $100,000.

HOUSTON, TEX.—It is reported that the Watermann Car, Wheel & [illegible] Co. has been organized, and plans [illegible] for the erection of the necessary buildings for a large plant. The main building will be 100 × 235 ft.

WAXAHACHIE, TEX.—It is reported that the Waxahachie Cotton Mills has decided to double the size of their present plant. It will involve the expenditure of $75,000.

CLEBURNE, TEX.—The contract for erecting the brick ice factory building has been awarded to H. D. McCOY [illegible] ft.

OKLAHOMA CITY, OKLA. [illegible] that a $200,000 packing plant [illegible] sideration for this city. The Armstrong-Durin Packing Co. of Dallas, Tex.

TULSA, IND. T.—It is reported that the Tulsa Ice & Packing Co. will build a large packing warehouse here.

SANTA ROSA, CAL.—The contract for erecting the new ice plant has been awarded to BAGLEY BROS.

MONTREAL, QUE.—The National Drug & Chemical Co. of this city has decided to build a large factory for the manufacture of chemicals. Cost, $250,000.

MISCELLANEOUS CONTRACTS.

The names of parties awarded contracts are printed in capital letters.

FIRE APPARATUS.—San Jose, Cal.—We are informed by Charles H. Pieper, City Engr., that bonds for $40,000 have been voted for purchase of fire apparatus.

DREDGING.—New York, N. Y.—Bids are asked until noon, Jan. 12, for dredging in Cheesequake Creek, N. J. Col. W. R. Livermore, Corps Engrs. (Advertised, Engineering News.)

WHEELING, W. VA.—HOLLENBACH & MAY, of Evansville, Ind., have been awarded the contract to construct a dam by the War Department, near this city. Estimated cost is $395,557.

DRAINAGE DITCH.—Ft. Dodge, Ia.—Bids are asked by H. S. Holm, Auditor, Webster County, until 10 A. M., Jan. 17, for the construction of drainage ditches for Webster and Wright Counties.

WHARF.—Boston, Mass.—Bids were received on Dec. 14 for repairing wharf and buildings at Rainsford Island, Boston Harbor. W. L. Miller, 19 Milk St., Boston, was lowest bidder, at $6,563.

DREDGING.—Jacksonville, Fla.—Specifications for dredging at Orange Mills Flats, St. Johns River, Fla., are on file at office of Engineering News, 220 Broadway, New York City. Bids are asked until Jan. 8, as advertised in Engineering News.

DUMP SCOW.—Wilmington, N. C.—Plans and specifications for one 4-pocket bottom dump scow are on file at office of Engineering News, 220 Broadway, New York. Bids are asked until noon, Jan. 15, as advertised in Engineering News on Dec. 21.

STONE WALL.—New York, N. Y.—Bids are asked until Jan. 5, 2 p. m., for building a dry stone wall on top of the existing stone embankment at the easterly side of Riker's Island, East River. Maurice Featherstone, Comr. Dept. of Docks and Ferries.

CAISSON.—Charleston, S. C.—Specifications are on file at office of Engineering News, New York city, for constructing a steel caisson for dry dock No. 1 at navy yard here. Bids are asked until Jan. 6, as noted in Engineering News on Dec. 14.

STEEL TOWER.—Shreveport, La.—Bids are asked until 6 p. m., Feb. 13, by C. G. Rives, City Comptroller, for erecting complete the superstructure of one structural steel tower for fire alarm bell, approximate weight for bidding will be 100 tons. (Advertised, Engineering News.)

STEEL SHEDS.—New Orleans, La.—Bids are asked until 7.30 p. m., Feb. 6, by Board of Commissioners, Port of New Orleans, Hibernia Bank Bldg., for construction and erection of steel work for any or all of seven sheds. J. F. Coleman, Hibernia Bank Bldg., is Engr. Hugh McCloskey is Pres. (Advertised, Engineering News.)

TUNNEL.—Boston, Mass.—Bids for constructing entrance to the Washington St. tunnel on the south side of LaGrange St. will be received at 15 Beacon St., Boston, Mass., until noon, Jan. 9. Specifications and forms of contract can be obtained at 15 Beacon St., ninth floor. Boston Transit Commission, B. Leighton Beal, Secy.

CANALS.—Roswell, N. Mex.—Bids are asked until 2 P. M., Feb. 1, for the construction and completion of canals and laterals, involving about 100,000 cu. yds. of earthwork and 1,000 cu. yds. of overhaul, at a point about eight miles southwest of Roswell. W. M. Reed, Roswell, N. Mex., may be addressed. (Advertised, Engineering News.)

DREDGING.—Richmond, Va.—Bids were received on Dec. 22 by Lieut.-Col. R. L. Hoxie, Corps Engrs., at Washington, for dredging, removing rock and constructing and repairing jetties in James River, Va. Total bids were: P. Sanford Ross, 277 Washington St., Jersey City, N. J., $175,384; Coastwise Dredging Co., Norfolk, Va., $178,793; The Degnon Contracting Co., 13 Park Row, New York City, $217,618. Detailed bids will be given next week under Contract Prices.

CANAL LOCKS.—Albany, N. Y.—The Advisory Board of Consulting Engineers of the state barge canal improvement has approved the plans for the construction of locks 4, 5 and 6, covering a territory of 1¾ miles north of Cohoes. The plans are the most extensive yet approved and will in-

volve the expenditure of about $2,000,000. The plan was approved by the canal board at a meeting on Dec. 19, and the superintendent of public works will now advertise for bids for the performance of the work.

CANAL.—Nebraska.—The Secretary of the Interior has awarded the following contracts in connection with the interstate canal, North Platte project, Nebraska and Wyoming: THE BURKE CONSTRUCTION CO., of St. Louis, Mo., for the construction and completion of section seven, second contract, Interstate Canal. This contract calls for grading, 410,200 cu. yds. and overhaul, 120,000 cu. yds., at $26,240. To JAMES O'CONNOR, of Mitchell, Neb., for the completion of section six, second contract, Interstate Canal, at $77,390. The contract calls for grading 400,200 cu. yds. and overhaul of 100,000 cu. yds.

DRAINAGE.—Spirit Lake, Ia.—C. C. Hamilton, County Auditor, will receive bids until 1 P. M., Jan. 2, for the construction of drainage district No. 4, for Dickinson and Emmet Counties. The work includes furnishing 7,735 ft. of 12-in. tile and 1,380 ft. of 8-in.; and for digging trenches and laying tile as follows: Section 1, 1,774 ft. of 12-in.; section 2, 1,135 ft. of 12-in. and 1,380 ft. of 8-in.; section 3, 1,754 ft. of 12-in.; section 4, 1,700 ft. of 12-in.; section 5, 1,392 ft. of 12-in. Bids are also wanted for filling ditches after laying tile; also for hauling the tile from Superior and from Estherville and distributing it along the route of D. C.

GUN FACTORY EQUIPMENT.—Washington, D. C.—Rear-Admiral N. E. Mason, Ch. of Naval Bureau of Ordnance, lays special stress in his annual report on the operations and needs of the naval gun foundry at the Washington navy yard. The superintendent of the naval gun factory recommends that the following improvements be made in the plant, enumerated in the order of their importance: For the purchase and erection of new and improved machinery for existing shops, $150,000; new brass, iron and steel foundry and foundry-yard building, $300,170; Machinery, cupolas, furnaces, etc., for new brass, iron and steel foundry, $121,075; new pattern shop building, $300,100; building for new sighting shop, $87,000; for new machinery for proposed sighting shop and the installation of the same, $150,000; building for gun shop for medium and small caliber guns, $190,800; machinery for said gun shop, $398,930; new forge-shop building, $134,937; forges, hammers, furnaces and machinery for proposed new forge shop, $148,000; extension for gas plant, $9,061; locomotive house, $61,747; machinery for locomotive house, $12,000; steel shed for timber, $40,320; fireproof pattern storehouse, $156,000; extension of building, east and west gun carriage and erecting shops, $334,448; machinery for same, $990,232; 75-ton locomotive wrecking crane for handling 12-in. guns, $16,000; the fourth battery of boilers and installations of same (5,300HP.), thus completing the plant, $50,000; muster house and closets, $8,800. Total, $3,300,580.

U. S. POSSESSIONS AND CUBA.

The names of parties awarded contracts are printed in capital letters.

GANTRY CRANE.—Washington, D. C.—Bids are asked until 10.30 a. m., Jan. 2, by D. W. Ross, Gen. Pur. Officer, Isthmian Canal Comn., for furnishing gantry crane and iron roof.

SUPPLIES.—Washington, D. C.—Bids are asked by D. W. Ross, Gen. Pur. Officer, Isthmian Canal Comn., until 10.30 a. m., Jan. 11, for furnishing brick, staybolt iron, switch ties, carborundum wheels and powder, emery wheel dressers, wrench jaws, ambulance, etc. Blanks and full information may be obtained from this office or the offices of the Assistant Purchasing Agents, 24 State St., New York City; Custom House, New Orleans, La.; 36 New Montgomery St., San Francisco, Cal., and 410 Chamber of Commerce Building, Tacoma, Wash.; also from Chief Quartermaster, Dept. of the Lakes, Chicago; Depot Quartermaster, St. Louis; Depot Quartermaster, Jeffersonville, Ind.; Chief Quartermaster, Dept. of the Gulf, Atlanta, Ga., and the Commercial Club, Mobile, Ala.

RAILWAYS.—Philippine Islands.—On Dec. 21 all the bids for concessionary contracts for the construction of railroads in the Philippine Islands recently submitted to the Bureau of Insular Affairs were rejected because of departure from the terms of the circular calling for proposals. Secretary Taft after conferences with Governor Wright and Mr. Forbes, of the Philippine Commission, and Colonel Edwards, Ch. of the Insular Bureau, decided to readvertise for proposals, and Jan. 20 at 10 a. m., has been named as the date for opening new bids for these concessions. The terms will be modified in some particulars. Where bidders offer to construct the road without guarantee they will be limited in their bids only by the terms of the Philippine government railroad acts of 1902 and 1903. But where the bidders wish to take advantage of a guarantee of a certain interest on their investment they can vary from the original invitation to bid only in point of time or in the cost of construction per mile, as affected by contractor's profits. As to the latter the Philippine government reserves the right to fix the maximum cost of the road. The time in which the road can be completed and the contractors' profit will be important considerations in making the awards. New circulars will be prepared at once for the guidance of those who may wish to enter the competition for the railroad concessions in the Philippines. Fully noted, with list of bidders, on Dec. 21, in Engineering News. Specifications are on file at office of Engineering News, New York.

WHARVES.—Manila, P. I.—Regarding the construction of steel wharves, advertised in Engineering News on Dec. 28, it is announced that the wharves are to be located in Manila Bay at the bulkhead retaining the made ground in front of the Walled City of Manila. They are to be constructed of new material from and perpendicular to the bulkhead and extending into the protected harbor, in accordance with the plans and specifications. One of the wharves is to be 650 ft. long and 110 ft. wide with pile and concrete cylinder substructure and reinforced concrete deck. The other is to be of similar structure but 600 ft. long and 70 ft. wide. The depth of water in which these wharves are to be built is about 30 ft. at mean low tide. Mean range of tide is 2.7 ft., and extreme range is six ft. The shore ends of the wharves will rest on concrete abutments. It is estimated that there will be 3,023,747 lbs. of structural steel in the work; seven cylinder piers, eight-pile; 53 cylinder piers, seven-pile; 94 cylinder piers, six-pile; 84 cylinder piers, five-pile; 12 cylinder piers, three-pile; four cylinder piers, eight-pile special; 328 fender piles, 60 ft. long; 67,573 ft. B. M. chocking, walling and backing; 112,365 sq. ft. net, reinforcing metal; 1,595 cu. yds., concrete deck; 12,400 sq. yds. wooden-block pavement; 328 car-spring buffers; eight large and eight small cast-iron mooring posts, and 38 cast-iron mooring cleats. The estimated cost of the work is $500,000. Plans and specifications are on file at office of Engineering News, New York. Noted on Dec. 14.

READERS' WANTS

Our readers, and others, who are in the market for supplies, machinery, etc., or to award contracts for work, will nearly always find the names of the firms who handle the material they want by referring to our advertising pages. Our advertisers are constantly changing their cards, and for this reason we advise our readers to look over the paper from the front cover to the back cover so as to keep in touch with up-to-date contractors' material, methods, etc. Mention Engineering News when writing our advertisers. If, however, you do not find advertised just what you want please write us at once and we will notify the proper firms without delay, and without charge.—Engineering News can help buyers.

STEEL TANKS.—Gulfport, Miss.—The Vossburg Lithia Springs Co. is reported in the market for a 1,500-gallon porcelain-lined steel tanks.

WATER WHEELS.—Athens, Ga.—L. F. Edwards, Pres. Mallison Braided Cord Co., is understood to be in the market for water wheels to develop 500 HP. at a 40-ft. fall.

LOGGING EQUIPMENT.—Mt. Pleasant, Fla.—James A. Dezell, of Mt. Pleasant, is understood to be in the market for a device to haul 2,000,000 ft. of logs 2½ miles over a level country.

MAP AND PLAN FILES.—Seattle, Wash.—E. B. Hussey, C. E., P. O. Box 381, Seattle, writes us that he wants information regarding the latest and most up-to-date methods of filing office maps and plans.

DYNAMO, ETC.—Fairmont, W. Va.—Dr. D. L. L. Yost, 225 Jefferson St., writes us that prices are wanted for a 60 or 100-light dynamo, direct current; also storage batteries, etc., to be used in doctors' offices, etc.

STEAM FIRE ENGINES, BOOTS, ETC., FOR FIRE DEPARTMENTS.—Cape Girardeau, Mo.—Geo. E. Chappell, Cy. Clk., writes us that prices are wanted on all supplies required for fire departments, such as engines, rubber goods, boots, etc.

FILTERS.—Fort Hancock, N. J.—J. H. Pearson, C. E. and Supt. Const. Q. M. D., Fort Hancock, writes us that it is desired to be placed in correspondence with firms preparing a certain filter to extract precipitated iron from artesian well water.

HEAVY FORGINGS.—Pittsburg, Pa.—W. W. Patterson Co., 54 Water St., writes us that it is in the market for 13 steel welded rings, 8 ft. 9 ins. inside diameter, and 10 ft. 3 ins. outside, and 9 ins. wide and 10 ins. thick, made of steel, 10 × 9 ins.

HOISTING AND CRUSHING MACHINERY, ETC.—Toronto, Ont.—G. B. Asheroft, Supt. Roman Stone Co., 100 Marlboro Ave., Toronto, writes us that the company is in the market for hoisting, crushing and grinding machinery, and air compressors, tools, etc.

BOAT, PROPELLED BY GASOLINE OR PETROLEUM.—New York, N. Y.—Jimenis & Co., exporters, 114 Wall St., write us that they have an inquiry for a boat propelled by gasoline or petroleum, and it is desired to receive catalogues from makers of such boats.

STEAM SHOVELS.—Anchorage, Ky.—E. W. Bedinger, Jr., is reported in the market for steam shovels.

MACHINERY FOR MAKING CONDENSED MILK, BUTTONS, TEXTILE FABRICS, ETC.—Brazil.—Lourenco de Souga & Co., rua de Rozario 99, Rio de Janeiro, Brazil, writes us that he wants catalogues from firms who make machinery for the above mentioned articles.

INDUSTRIAL RAILWAY SUPPLIES.—Syracuse, Ind.—The Art Portland Cement Co., of Syracuse, Ind., writes us that it will be in the market for industrial railway equipment, and it is desired to be placed in correspondence with manufacturers. Edward Hoykendorfl, Supt.

AUTOMATIC WIRE CRIMPING MACHINE, ETC.—Washington, D. C.—Royce & Ricketts, Commercial Bank Bldg., write us that they have an inquiry for an automatic wire crimping machine with automatic cut-off, for grill and grating work. It is desired to be placed in correspondence with makers of such machines.

MACHINERY FOR MINING AND BLASTING.—Tucson, Ariz.—H. C. Kennedy, care Santa Rita Hotel, Tucson, writes that he wishes to be placed in correspondence with firms in Rhode Island, Massachusetts and Connecticut who manufacture machinery for mining and blasting, such as fuses, etc. The information, including prices, etc., are wanted at once.

GASOLINE MOTOR CARS, ETC.—Austin, Tex.—C. P. Scrivener, C. E., 704 Congress Ave., Austin, writes us that he wishes to receive catalogues from manufacturers of gasoline motor cars for a standard gage road. Data relating to the cost of construction, operation, etc., are wanted. It is intended to build an interurban road, to be about 40 miles long, but the motive power has not been decided upon.

WOODWORKING MACHINERY, ETC.—J. C. Hollingworth, of Mt. Airy, N. C., Gregg Ezell, of Gholsonville, Va.; Jas. A. Dezell, of Mt. Pleasant, Fla.; A. J. Bogarth, of Garland, N. C.; the Samson Mfg. Co., of Samson, Ala.; A. E. Davis, of Salisbury, N. C., and the High Point-Hardwood Mfg. Co., of High Point, N. C., are reported in the market for planing machinery and all kinds of woodworking tools, etc.

BUILDINGS.—South Africa.—Among building works calculated to create a call for ironmongery and light and heavy builders' material are the following: At Johannesburg, the projected new Town Hall, to cost $2,000,000, and new post-office buildings, $1,250,000, both under consideration; and plans already approved for block of chambers for Messrs. Giddey & Clarkson, Doornfontein, $125,000. William D. Gordon is the American Consular Agent at Johannesburg.

IMPROVEMENTS.—Crowborough, Sussex County, England.—A scheme is being discussed to make this town more attractive to the largely increasing number of visitors. It is planned to expend about $200,000.

SEWERAGE.—Nantyglo, Eng.—Application is about to be made to the Local Government Board for power to borrow $50,000 for the purpose of carrying out a subsidiary sewerage scheme for the district to connect with the Western Valleys main trunk sewer.

FACTORY.—Hull, Eng.—The Mayor of Hull has publicly announced that an American radiator company had secured 30 acres of land at Hull, and was about to start a factory employing 700 men.

ELECTRIC TRAMWAY.—Madrid, Spain.—Bids will be received until Jan. 30 by the Directorate General of Public Works, Madrid, for the concession of an electric tramway between Santander and Astillero. An application for this concession has already been made by the Nueva Montana Iron & Steel Co., of Santander, which, at the same rates, will enjoy certain preferential rights over other bidders. The competition will turn, in the first place, on a reduction of the tariffs proposed; and if two or more identical propositions are made, a further competition will take place verbally as to any reduction bidders may be prepared to accept of the period (60 years) of the concession. A deposit of about 8,195 pesetas (about $1,500) is required to qualify any bid.

Bids are also asked, until Jan. 16th, by the Directorate-General of Public Works, Madrid, for the concession of an electric tramway between Zumarraga and Azkoitia, in the province of Guipuzcoa. An application for this concession has already been made by Don Dionisio Sorseta who, at the same rates, will enjoy certain preferential rights over other bidders. This competition is upon the same terms as the above with a deposit of 6,897 pesetas (about $1,250) required to qualify any bid.

BRIDGE.—Turkey.—C. M. Dickinson, American Consul-General at Constantinople, reports that the order for the building of the new Galata bridge across the Golden Horn, for which American firms were active bidders, has been secured by the firm of SCHNEIDER & CO., of Le Creuzot, France. The contract, however, is held in suspense owing to a difference in regard to the cost of the bridge. In consideration of a recent loan obtained from France the Turkish Government agreed to appropriate the sum of $2,640,000 to pay for the new bridge, torpedo gunboats and armaments, and it was expressly stipulated in the agreement that these were to be ordered in France. Out of this appropriation $2,112,000 is to be expended in armaments and ships, leaving a balance of $528,000 to pay for the Galata bridge. The French engineers had practically closed the contract at this figure, when, upon further examination, they found that it would be impossible to build the bridge at that price. They are willing to do the work for an extra $76,000, and the Imperial Government has accepted this extra allowance, but refuses to have it taken out of the loan or furnish security for its payment. Galata is a large suburb of Constantinople, on north side of the Golden Horn, and is the principal seat of foreign trade.

CONTRACT PRICES.

CONCRETE DOCK.—Chicago, Ill.—Two bids were received on Dec. 13 by the Sanitary District of Chicago on Dec. 13 for concrete dock along the Chicago River front of the W. C. Seipp Bldg. on Van Buren St. The bids were as follows: (1) Great Lakes Dredge & Dock Co., Chicago; (2) Tindele, Brost Co., Chicago:

Bids Received at Chicago, Ill., December 13, 1905, by the Sanitary District of Chicago, for Concrete Dock along the Chicago River front of the W. C. Seipp, Bldg., on Van Buren St.

Items.	Quantities.	(1)	(2)
Excavation, including trench sheeting, bracing, etc.	650 cu. yds.	$3.25	$3.25
Completed dock, including foundation piles, sheeting, concrete top, etc.	202 lin. ft.	44.00	73.50
Reinforcing rods, metal and anchorage	18,000 lbs.	.05	.07
Concrete floor	70 sq. yds.	.98	2.25
Coffer dam	40 lin. ft.	30.00	49.00
Extra concrete	20 cu. yds.	7.00	12.00
Extra white or burr oak piles	450 lin. ft.	.30	.47

WATER MAINS.—New York, N. Y.—The following bids were received by the Department of Water Supply on Dec. 13, for furnishing and laying water mains in various streets and also for furnishing and setting 21 fire hydrants in the village of College Point, N. Y.: (1) D'Ambra & Tucillo, 39 South St. and Villa Ave., Brooklyn; (2) Louis D. Gregory, 125th St. and First Ave.; (3) Pease Bros., Flushing, L. I.; (4) Norton & Dalton Construction Co., 27 West 140th St.; (5) Clinton Beckwith, 49 West 27th St.; (6) P. T. Brennan, 759 East 173d St.:

BIDS RECEIVED AT NEW YORK, N. Y., DECEMBER 13, 1905, BY THE DEPARTMENT OF WATER SUPPLY, FOR FURNISHING AND LAYING WATER-MAINS IN VARIOUS STREETS AND ALSO FOR FURNISHING AND SETTING 21 FIRE HYDRANTS IN THE VILLAGE OF COLLEGE POINT, N. Y.

Items.	Quantities.	(1)	(2)	(3)	(4)	(5)	(6)
Straight pipe	1,465 tons.	$33.00	$34.00	$29.50	$31.00	$33.00	$31.00
Branches, spec. castings and gate valve boxes and covers	150 "	65.00	65.00	60.00	65.00	65.00	59.00
Rock excavation	950 cu. yds.	2.00	3.00	5.00	4.00	3.50	.....
Extra "	1,000 "	2.00	.75	.50	1.00	.47	.....
14-in. pipe, inc. exc. and fill	24 lin. ft.	.35	.75	1.25	1.00	.50	.50
12-in. pipe, " "	29,064 "	.35	.55	.46	.60	.40	.50
10-in. pipe, " "	60 "	.25	.55	1.25	.60	.40	.40
8-in. pipe, " "	120 "	.25	.55	1.00	.60	.36	.38
6-in. pipe, " "	11,400 "	.25	.36	.38	.60	.27½	.34
1/6-in. wet connection to 12-in. pipe	....	20.00	100.00	95.00	40.00	75.00	80.00
1/6-in. wet connection to 8-in. "	....	20.00	80.00	75.00	40.00	50.00	80.00
19/16-in. wet connection to 6-in. pipe	....	20.00	65.00	75.00	40.00	40.00	75.00
14-in. inside screw gate valves	2	85.00	70.00	100.00	100.00	75.00	90.00
12-in. inside screw gate valves	119	60.00	45.00	80.00	60.00	55.00	75.00
8-in. inside screw gate valves	10	26.00	30.00	60.00	30.00	30.00	55.00
6-in. inside screw gate valves	162	20.00	22.00	35.00	20.00	25.00	35.00
Double-nozzle standard N. Y. hydrants and appurtenances, incl. lead-lined drain pipe and broken stone for trench	124	40.00	45.00	75.00	45.00	52.50	45.00
Brick masonry	10 cu. yds.	.01	12.00	12.00	18.00	12.00	12.00
Concrete masonry	10 "	.01	8.00	8.00	10.00	6.00	8.00
Sheet or block asphalt pavement and artificial stone sidewalk, including foundation	250 sq. yds.	2.00	4.00	5.00	4.00	4.00	3.00
Granite block pavement on concrete foundation with tar and gravel or cement joints	5 "	.01	3.00	5.00	2.00	2.00	.40
Pavement and flagging	1,200 "	.10	.50	.60	.50	.30	.50
Macadam pavement	100 "	.01	.75	.60	.60	.25	.50
Boxing for 12-in. pipe	150 lin. ft.	2.00	10.00	8.00	5.00	5.00	2.50
Boxing for 6-in. "	80 "	2.00	8.00	6.00	5.00	5.00	2.50
B. M. sheet piling and timber that may be left in the work by direction of the engineer	500 ft.	2.00	40.00	50.00	40.00	25.00	.....
Totals		$93,175	$102,795	$106,239	$104,845	$97,997	$97,417

IRRIGATION CANAL.—Billings, Mont.—Bids were received by Engineer, U. S. Reclamation Service on Dec. 15 for construction of main canal, laterals and ditches, involving excavation of about 640,000 cu. yds. of earth, some rock excavation, and furnishing labor and material for various structures, requiring about 320,000 ft. B. M. of lumber, 140,000 lbs. of steel and 1,400 cu. yds. of concrete, as advertised in Engineering News on Oct. 19. The bidders were: (a) Piper Bros. Co., P. O. Box 3, Pueblo, Colo.; (b) Midland Bridge Co., P. O. Box 385, Kansas City, Mo.; (c) New Jersey Foundry & Machine Co., 9-15 Murray St., New York, N. Y.; (d) Nick Hughes & Nels L. Olson, Butte, Mont.:

SCHEDULE NO. 1—About 135 Miles of Lateral and Ditch Construction. Paving and Riprap in this Schedule are for lining canals or ditches.

		(a)	(d)
141,000 cu. yds.	Excavation, Class I	$0.14	$0.20
250 " "	Excavation, Class II	.38	.50
250 " "	Excavation, Class III	.75	2.50
65 lin. miles	Ditching, Type 5	120.00	200.00
12 " "	Ditching, Type 10	135.00	200.00
24 " "	Waste-Water Ditches, Type 8	165.00	340.00
11 " "	Waste-Water Ditches, Type 30	555.00	1,160.00
100 cu. yds.	Paving	3.98	5.00
250 " "	Riprap	3.98	5.00
200 " "	Coarse Gravel	1.25	3.00
		$41,150*	$67,620

*Bid is for all items or none.

SCHEDULE NO. 2.—About 135 Miles Main Canal, Laterals and Ditches. Paving and Riprap in this Schedule are for lining canals or ditches.

		(a)	(d)
115,000 cu. yds.	Excavation, Class I	$0.14	$0.20
400 " "	Excavation, Class II	.38	.50
400 " "	Excavation, Class III	.75	2.50
66 lin. miles	Ditching, Type 5	120.00	200.00
12 " "	Ditching, Type 10	135.00	200.00
24 " "	Waste-Water Ditches, Type 8	165.00	340.00
10 " "	Waste-Water Ditches, Type 30	555.00	1,160.00
250 cu. yds.	Paving	3.98	5.00
400 " "	Riprap	3.98	5.00
50 " "	Coarse Gravel	1.25	3.00
200 " "	Rubble Wall	3.98	5.00
200 " "	Concrete, Class I	5.45	10.00
		$40,137*	$65,960

*Bid is for all items or none.

SCHEDULE NO. 3.—Bridges.

		(a)	(b)
2	26-ft. Span Complete	$81.00	$143.50
4	24-ft. " "	74.00	185.24
17	22-ft. " "	70.00	125.56
8	20-ft. " "	66.00	120.25
8	18-ft. " "	62.00	113.44
20	16-ft. " "	56.00	104.17
4	14-ft " "	52.00	94.43
20	12-ft. " "	48.00	87.48
4	10-ft. " "	38.00	76.60
4	8-ft. " "	34.00	66.58
4	6-ft. " "	30.00	54.10
4,000 cu. yds.	Excavation, Class I	.40	.93
80	Still Stones, 12 × 18 × 18 ins.	1.00	1.00
300 cu. yds.	Concrete, Class I	5.45	9.00
		$8,683*	$16,331

*Bid is for all and at least one other schedule.

SCHEDULE NO. 4.—Timber Culverts, Turnouts and Trestles.

	(a)
24,500 ft. B. M. M. ft. Type 0 (Class 2 Lumber)	$29.60
70,000 ft. B. M. M. ft. Type 00 (Class 2 Lumber)	29.60
95,000 ft. B. M. M. ft. Type 000 (Class 2 Lumber)	29.60
32,500 ft. B. M. M. ft. Types 11, 12, 21, 22, 21R, 22R, 1121, 2111 (Class 2 Lumber)	31.75
4,800 ft. B. M. M. ft. Types 31 and 32 (Class 2 Lumber)	31.75
3,000 ft. B. M. at ft. Wooden Gates, etc. (Class 1 Lumber Dr.)	36.00
23,100 ft. B. M. M. ft. Type 41 (Class 2 Lumber)	31.75
104,000 ft. B. M. M. ft. Type 51 (Class 2 Lumber)	31.75
5,000 ft. B. M. M. ft. Trestling (Class 1 Lumber)	34.50
2,000 ft. B. M. M. ft. Trestling (Class 2 Lumber)	30.00
300,000 ft. B. M. M. ft. Preserving Lumber	1.25
3,000 cu. yds. Excavation, Class I	.40
1,000 cu. yds. Puddling	.75
100 cu. yds. Paving	3.98
50 cu. yds. Riprap	3.98
175 Flashboards	1.35
20 cu. yds. Coarse Gravel	1.25
200 cu. yds. Concrete, Class I	5.45
	$15,443*

*Bid is for all and at least one other schedule.

SCHEDULE NO. 5.—Concrete Structures, Setting Gates, etc. Paving and Riprap in this Schedule will be adjacent to concrete structures.

		(a)
100 cu. yds.	Concrete, Class I	$5.45
800 " "	Concrete, Class II	10.00
20	Setting Gates & Guides, Type A	2.25
13	Setting Gates & Guides, Type B	2.25
20	Setting Lifting Devices	2.25
400 cu. yds.	Excavation, Class I	.40
100 " "	Excavation, Class II	.55
100 " "	Excavation, Class III	.85
200 " "	Puddling	.75
150 " "	Paving	3.98
200 " "	Riprap	3.98
50 " "	Rubble Walls	3.98
80 " "	Coarse Gravel	1.25
200 lin. ft.	Vitrified Pipe, 15-in.	.90
1,000 " "	Vitrified Pipe, 4-in.	.20
		$11,186*

*Bid is for all and at least one other schedule.

SCHEDULE NO. 6.—Reinforcing and Structural Steel, Gates, Guides and Lifting Devices. F. O. B. Huntley, Mont.

	(c)
50,000 lbs. Steel for Concrete Reinforcement. Plain Bars	$0.032
20,000 lbs. Steel for Concrete Reinforcement. Patent Bars	.043
6,000 lbs. Gates and Guides, Type A	.085
13 Gates and Guides, Type B, complete	17.00
20 Rachet Lifting Devices, complete	37.00
178,000 lbs. Structural Steel	.0374
	$10,588

CIVIL SERVICE EXAMINATIONS

COMPUTER.—Washington, D. C.—The U. S. Civil Service Commission announces an examination on Jan. 24-25, 1906, to secure eligibles from which to make certification to fill a vacancy in the position of miscellaneous computer in the United States Naval Observatory, and other similar vacancies as they may occur. The Department states that miscellaneous computers are paid by the hour and earn from $800 to $1,000 per year. Age limit, 20 years or over; but preference in appointment will be given to eligibles under 35 years of age. Applicants should apply for Form 1,312.

ENGINEERS.—Washington, D. C.—The U. S. Civil Service Commission announces an examination on Jan. 10, 1906, to secure eligibles from which to make certification to fill the specific vacancies mentioned below, and vacancies as they may occur in the Indian Service in engineering positions: Engineer, $900 per annum, Puyallup, Wash., as the result of examination in Branch 3, with the exception that the second subject will be amended to cover "Experience in handling steam-heating plant and knowledge of plumbing," which must be shown in the application. Engineer with knowledge of steam duplex pumps, engines, ice plant, laundry machinery, steam boilers, etc., at $900 per annum, Colorado River Agency, Ariz. Applicants for this position will be examined in branches 1 and 4, and must show in their applications that they have acquaintance with laundry machinery. Engineer, at $840 per annum, at Grand Junction, Colo. Applicants for this position will be examined in Branch 1. The duties of the position require the operation of an acetylene gas engine, and applicants must therefore show in their applications that they have had experience which would qualify them for this work. Owing to the widely varying conditions in the various schools and agencies of the Indian Service, general engineering examinations will be given under the following separate branches: Branch 1, steam engineering; branch 2, electrical engineering; branch 3, heating; branch 4, refrigeration; branch 5, gas and gasoline engines; branch 6, hydraulics. An applicant may take one or more than one of these in his discretion. The prospects of appointment will be increased by successfully passing more than one of the branches indicated. Applicants should fully indicate in their applications the particular branch or branches in which they desire to be examined, and should state as definitely as possible the experience they have had which would tend to qualify them in the branches selected. The ratings in each branch will be determined separately, and if more than one branch is taken the ratings will be combined into a general average with the relative weights indicated opposite each branch. Salaries, $480 to $1,000 per annum. The majority of the appointments, however, are made at salaries of $720, $840 and $900 per annum. Age limit, 20 years or over on the date of the examination. Application Form 1,093, only one form being required in case more than one branch is selected.

MEXICO.

ELECTRIC POWER PLANT.—Almoloya, Chihuahua.—The work of installing a large electric power plant at the El Cigarrero mine, situated near Almoloya, will soon be completed.

SMELTER.—Guaymas, Sonora.—A syndicate of New York capitalists will erect a smelter at this place. It will have a capacity of 250 tons.

HARBOR IMPROVEMENT. — Mazatlan, Sinaloa.—The Mexican government has appropriated $700,000 for improving the harbor of Mazatlan.

PUBLIC MARKET.—Torreon, Chihuahua.—MACKIN & DILLON have contracted for the erection of a public market house in the city of Torreon, to cost $165,000.

SEWER SYSTEM.—Parral, Chihuahua.—The city council of Parral has issued $300,000 of bonds, which are guaranteed by the state government, to provide for the construction of a new sewer system here.

SMELTER. — Sonora.—F. W. Foster, who owns a number of mines near the Yaqui River, south of Nacozari, Son., will erect a smelter on the bank of the river, about two miles distant from the mines.

SMELTER.—Chihuahua.—The Greene Gold & Silver Co. has applied to the state government of Chihuahua for a concession for the construction of a smelter at Conchero, in the Ocampo district of the state.

SUGAR REFINERY.—Santa Lpcrecia, Vera Cruz.—The Tabasco Land & Development Co. has been granted a concession by the federal government for the establishment of a large sugar refinery near this place.

HYDRO-ELECTRIC PLANT.—Vera Cruz, Vera Cruz.—Alberto Schuler will install a hydro-electric plant on the Minas River, in the Jalacingo district, state of Vera Cruz. The plant will furnish power for mines.

IRRIGATION SYSTEM.—Cuernavaca, Morelos.—Manuel Uribe has obtained a concession from the federal government to establish a system of irrigation in this state. He will obtain the water supply from the Amascuzac River.

WATER-WORKS.—Tampico, Tamaulipas.—The water-works and sewer systems of this city are to be extended to all parts of the city. Dr. Antonio Guzman, jefe politico, can give information in regard to the proposed public improvements.

MARKET.—Torreon, Coahuila.—The work of constructing the new market house at this place has commenced. The building will cost $165,000. The plans which have been prepared and adopted call for a modern structure in every respect.

ELECTRIC LIGHT PLANT. — Parral, Chihauhau.—The electric light plant of Pedro Alvarado at his Palmillo mine is being enlarged. The mine is situated near Parral. J. J. Weisel, an engineer, of Parral, has charge of the improvement work.

SMELTING MACHINERY.—Torreon, Dgo.—The American Smelting & Refining Co. are to add to their present plant, in Torreon, a department for the treatment of copper ore, and will, at once, proceed with the erection of copper furnaces and converters.

MINING MACHINERY.—Zacatecas.—It is stated that the El Bote Mining Co., which owns and operates the El Bote mines, in the state of Zacatecas, as preparing to install a large cyanide plant, which will have a daily capacity of 100 tons.

IRRIGATION SYSTEM.—Culiacan, Sinaloa.—Francisco C. Alcalde is preparing to establish a large irrigation system in this state. He will obtain the water supply from the Sinaloa River. A dam will be built across that stream and the water stored in that manner.

SMELTER. — Parral, Durango. — D. M. Evans, of Parral, and associates, will erect a smelter of 250 tons capacity near this city. The contract for its construction has been let to GARRISON & McMARLIN, of Pittsburg, Pa. It will contain both lead and copper furnaces.

BALLASTING.—Tampico, Tamaulipas.—It is reported that the Mexican Central Railroad Co. is about to let bids calling for contract work valued in the neighborhood of $750,000. The work is ballasting of the Monterey division and the installation of steel and stone bridges.

PAVING.—Guadalajara, Jalisco.—Work of paving 50 blocks of streets of this city by the MEXICAN ASPHALT PAVEMENT &, CONSTRUCTION CO. is making good progress. The work of covering the San Juan de Dios River throughout the length of the city will soon be commenced.

WATER POWER.—Jalacingo. — Alberto Schuler, of the City of Mexico, has applied to the Department of Fomento for a concession to divert 10,000 liters of water, per second, from the Minas River, in the canton of Jalicongo, State of Veracruz, for motive power and for beneficiating ores.

REFINERY.—City of Mexico.—The new refinery of the National Metal Co. in the City of Mexico, will soon be finished. The plant will have cost about $150,000 when completed. It will be used for the refining and separation of gold and silver and for the treatment of bullion. H. P. Lewis is general manager.

HYDRO-ELECTRIC PLANT.—San Juan Bautista, Tabasco.—S. Pearson & Son, English contractors, will install a hydro-electric plant on Acumba Lake, state of Tabasco. The power which the plant will generate will be used to operate the machinery of an industrial plant which this firm will establish here.

RAILWAY.—Jalisco and Michoacan.—A. E. Springall, Consult. Engr., of the Jalisco & Michoacan Ry. Co., is making an inspection of the proposed line, and it is said, construction will commence in the near future. The general offices of the company are in Guadalajara, Jal., and the general manager is J. N. Zermeno.

SMELTER.—Chihuahua, Chih.—Governor Enrique Creel, of Chihuahua, has approved the plans of the smelter to be erected by the American Smelting & Refining Co. Work of construction will commence at once. The initial plant will be of 750 tons capacity and of the latest design, and will be increased as the demands require.

Miscellaneous Wants

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For other Proposal Advertisements see pages 43, 44, 45, 46, 47, 48, of Advertisements and Construction News page 224.

HIGHWAY BRIDGE AT HAVERHILL, MASS.

Sealed bids for furnishing and constructing the SUBSTRUCTURE of a highway bridge over the Merrimac River at Haverhill, Massachusetts, will be received by the County Commissioners of Essex County at their office at the Court House, Salem, Massachusetts, until 12 M., Friday, January 19, 1906.

The work will consist of furnishing the material and constructing five piers and two abutments with retaining walls, of granite masonry and concrete backing. The two abutments and one pier are on land, the remaining piers are in the river. The depth of water averages from one to ten feet below mean low water. The foundations are to be constructed within cofferdams or crib.

Plans, Specifications and Form of Contract can be obtained from the Clerk of the Commission at Salem, Mass.

The Commission reserves the right to reject any or all bids and to award the contract as it deems for the best interest of Essex County.

By order of the County Commissioners.

JAMES P. HALE,
Clerk.

GEORGE F. SWAIN,
Consulting Engineer. 26-2t

Plans and specifications are on file at the office of Engineering News, 220 Broadway, New York.

HIGHWAY BRIDGE AT HAVERHILL, MASS.

Sealed bids for furnishing and erecting the SUPERSTRUCTURE, including metal work and wooden floor for a highway bridge over the Merrimac River at Haverhill, Massachusetts, will be received by the County Commissioners of Essex County at their office at the Court House, Salem, Mass., until 12 M., Friday, January 19, 1906.

The work will consist of furnishing and erecting five spans of pin-connected steel trusses 153′ 5″ center to center of end pins and one plate-girder span of 61′. The bridge will have a clear width of roadway of 32′ and sidewalk on one side. A plank flooring is also to be furnished and laid.

Plans, Specifications and Form of Contract can be obtained from the Clerk of the Commission, at Salem, Mass.

The Commission reserves the right to reject any or all bids and to award the contract as it deems for the best interest of Essex County.

By order of the County Commissioners.

JAMES P. HALE,
Clerk.

GEORGE F. SWAIN,
Consulting Engineer. 26-2t

Plans and specifications are on file at the office of Engineering News, 220 Broadway, New York.

DEPARTMENT OF THE INTERIOR, Washington, D. C., December 23, 1905.—Sealed proposals will be received at the office of the United States Reclamation Service, Roswell, N. Mex., until 2 o'clock p. m., February 1, 1905, for the construction and completion of canals and laterals involving about 100,000 cubic yards of earthwork and 1,000 cubic yards of overhaul, at a point about 8 miles southwest of Roswell, N. Mex. Plans, specifications and forms of proposal may be obtained by application to the chief engineer of the Reclamation Service, Washington, D. C., or to W. M. Reed, Roswell, N. Mex.

THOS. RYAN, Acting Secretary. 26-4t

Tables of Equivalents of Metric and English Measures, Weights, etc.

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ENGINEERING NEWS, 220 Broadway, N. Y.

In this Issue: Reenforced CONCRETE RESERVOIR, Fort Meade, So. Dak.—Heavy RAILROAD CONSTRUCTION for the Pennsylvania R. R.—The DECORATIVE Possibilities of CONCRETE.—INDEX to Volume LIV.

2009

ENGINEERING NEWS

A Journal of Civil, Mechanical, Mining and Electrical Engineering.

Volume LIV. No. 26. | 220 Broadway, NEW YORK, THURSDAY, DECEMBER 28, 1905. | $5.00 per Year. Single Copies, 15 Cents.

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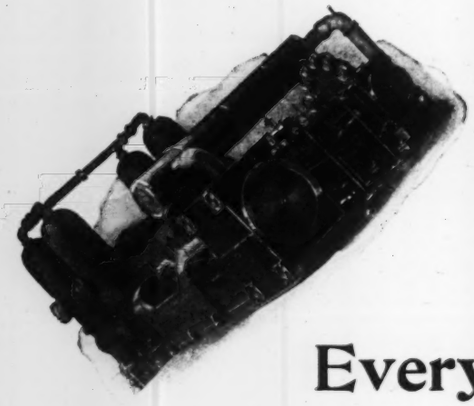

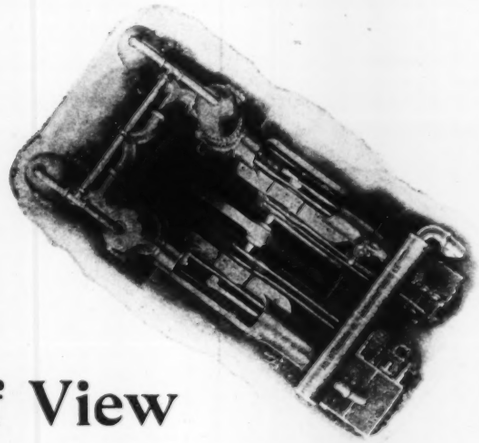

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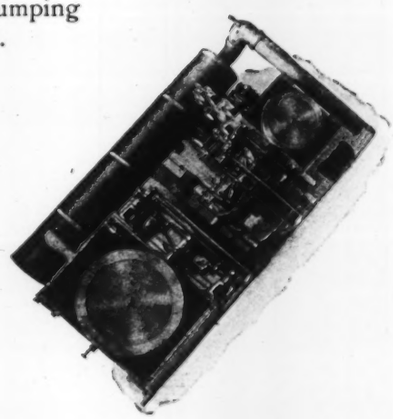

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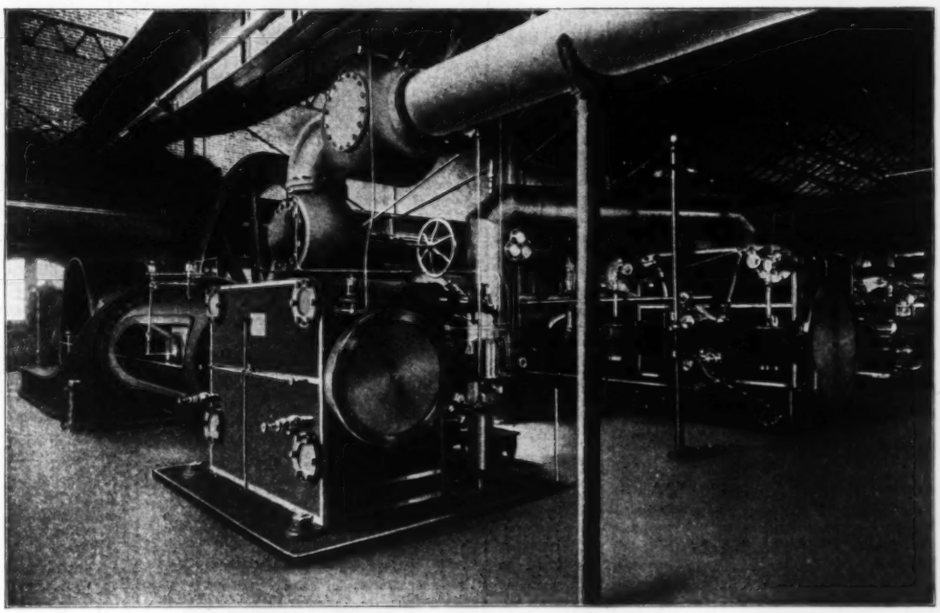

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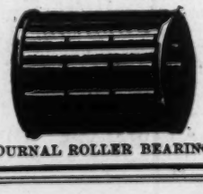

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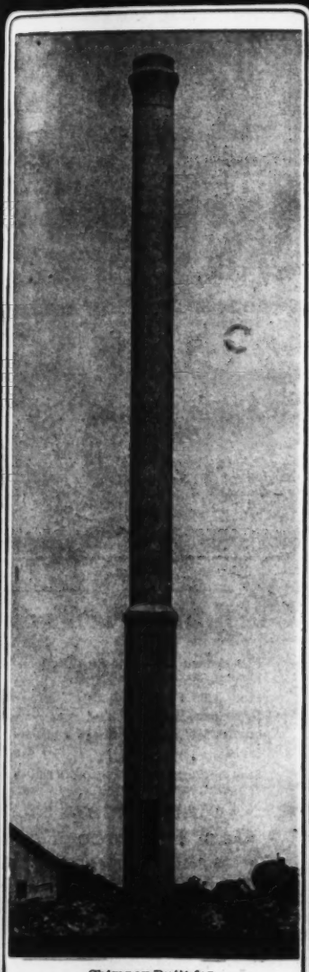

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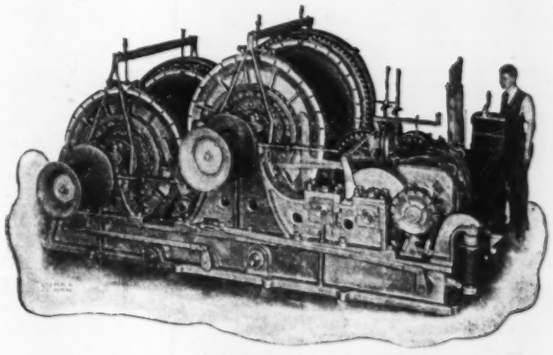

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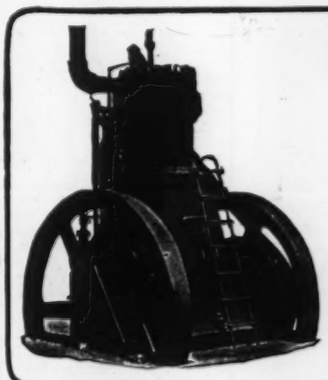

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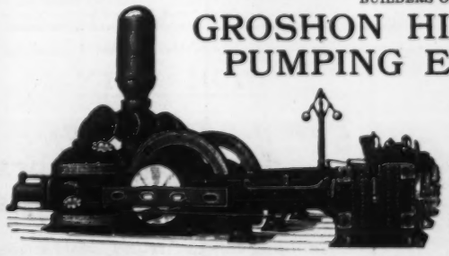

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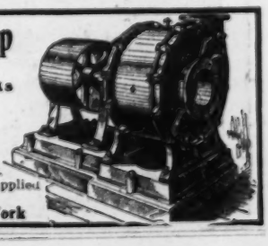

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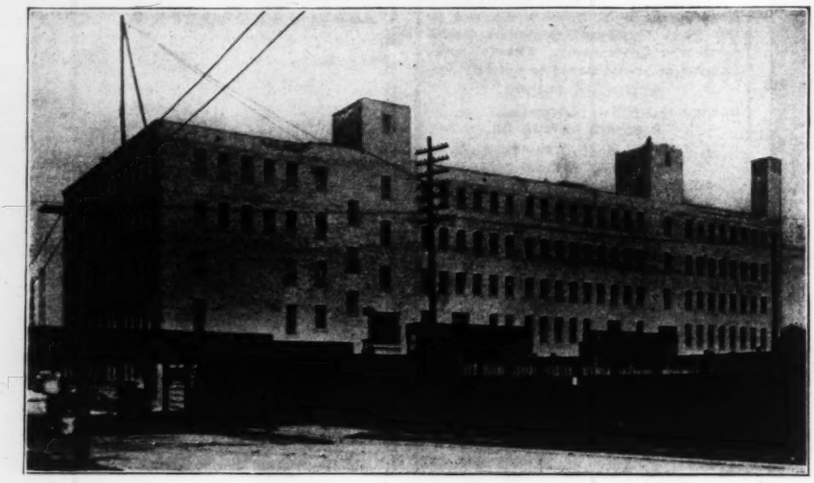

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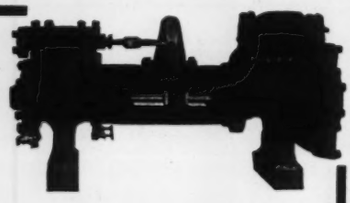

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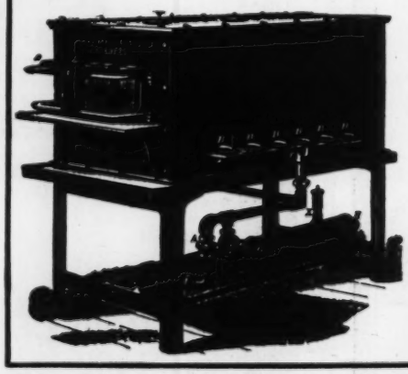

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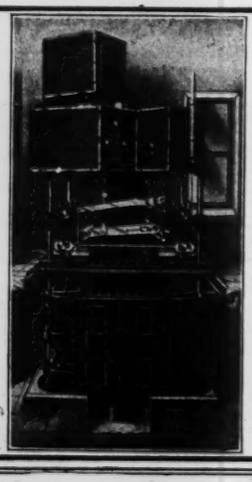

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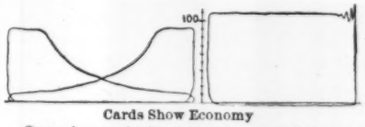
All parts readily accessible. Valve and Cylinder Covers easily removed. No Space for Air to collect in Water Passages.



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FOR ANY REQUIREMENT

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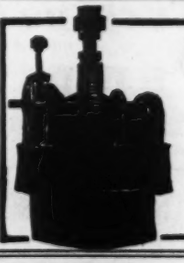
Pacific Coast Agents, PELTON WATER WHEEL CO. San Francisco, Calif.



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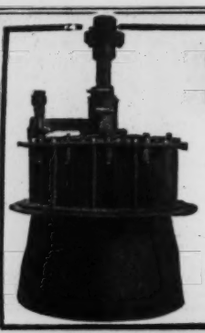
ON HORIZONTAL OR VERTICAL SHAFTS

These Turbines are recognized as the most effective Water Wheels made. Your inquiries should come direct to us for this class of machinery.



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Gateage	Head	R. P. M.	Cu. ft. per sec.	H. P.	Efficiency.
Full	13.27	109	247	310	83.58 per cent.
1/8	13.50	104	235	304	84.60 "
2/8	13.79	101	223	296	85.01 "
1/2	14.18	100	209	280	83.56 "
3/4	14.69	100	189	254	81.06 "
1/2	15.12	102	174	239	80.36 "

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This is the original wheel of the impulse type, and its present development represents an experience of 18 years devoted to one specialty—

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They are highly efficient and dependable at all times—adapted to any purpose requiring power,

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Complete illustrated catalog on water power sent to those interested.

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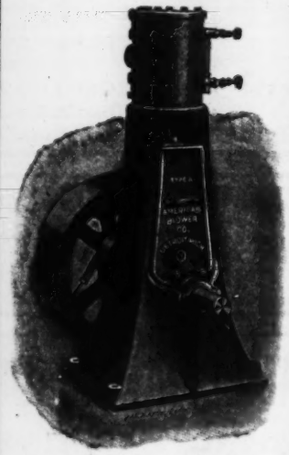
100% ON INVESTMENT

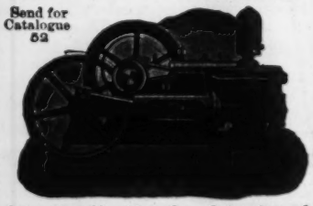


Let us send you Circular No. 185-I, showing how the annual saving in cost of operating our TYPE A ENGINE amounts to the above figure.

American Blower Co.
DETROIT

Columbus Gasolene Pumping Engines

Send for Catalogue 52



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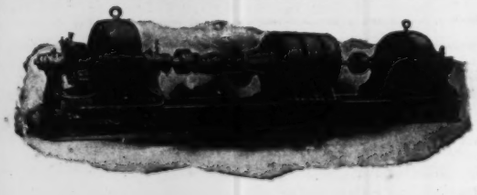

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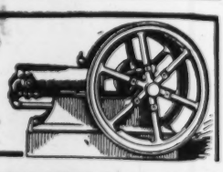

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Reduce your cost of maintenance.

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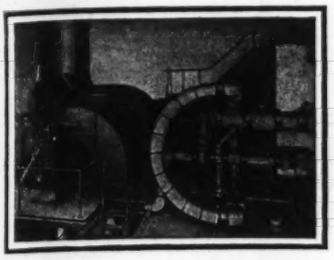

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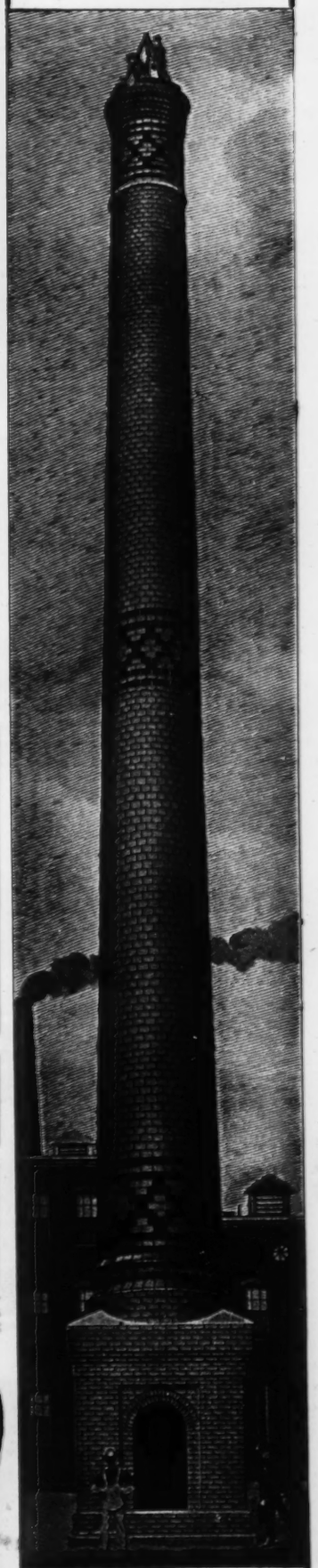

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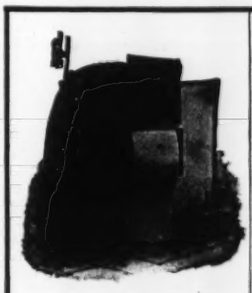

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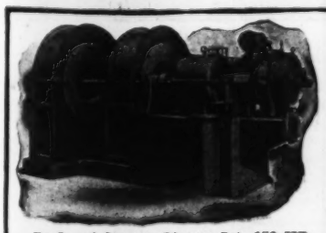

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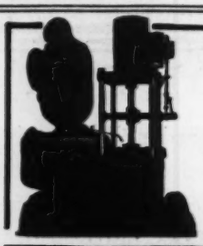

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Simple, Duplex, Power and Electric Pumps
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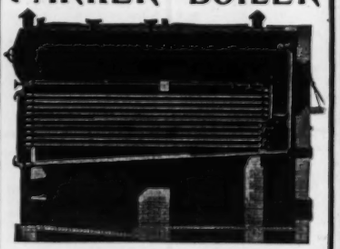

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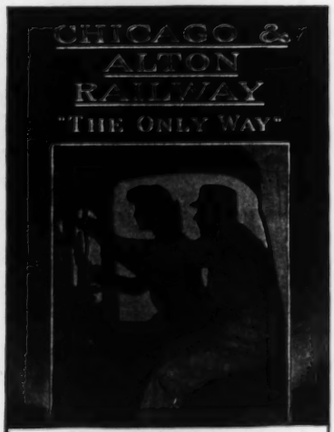

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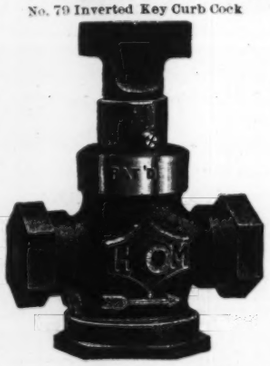

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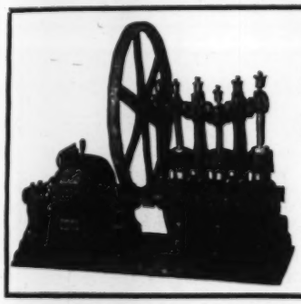

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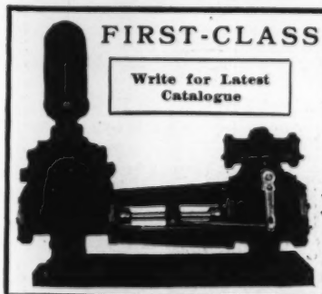

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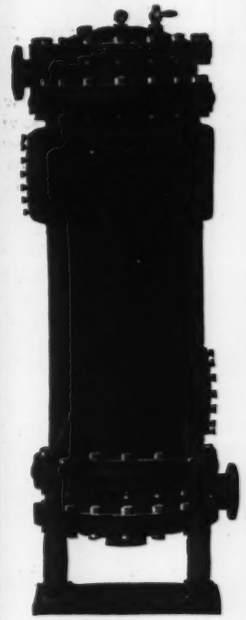

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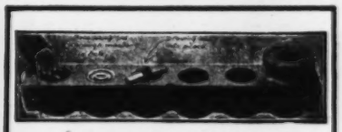

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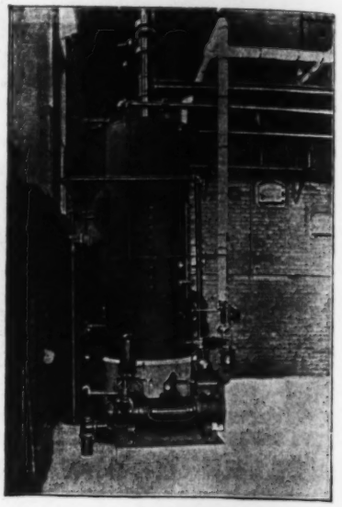

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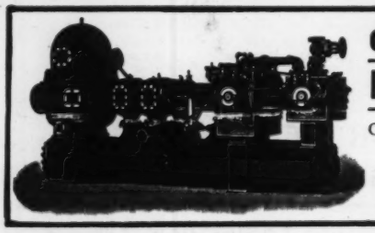

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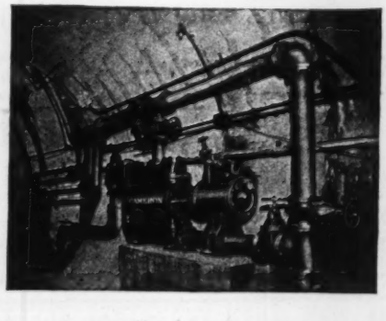

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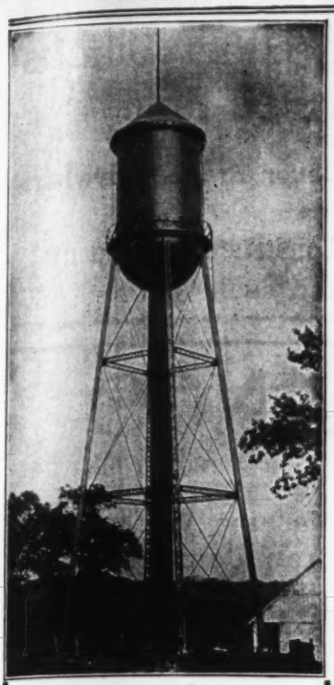

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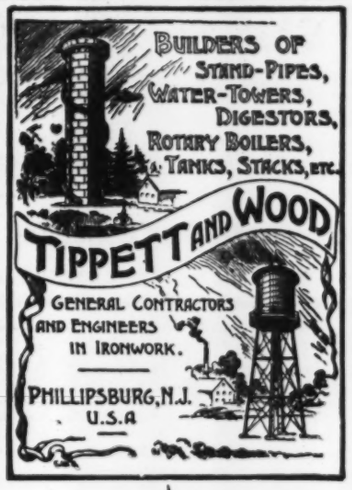

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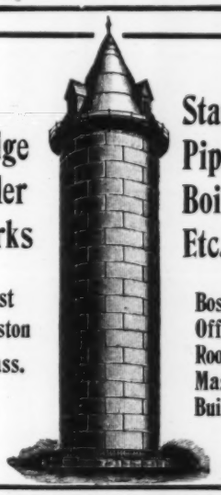

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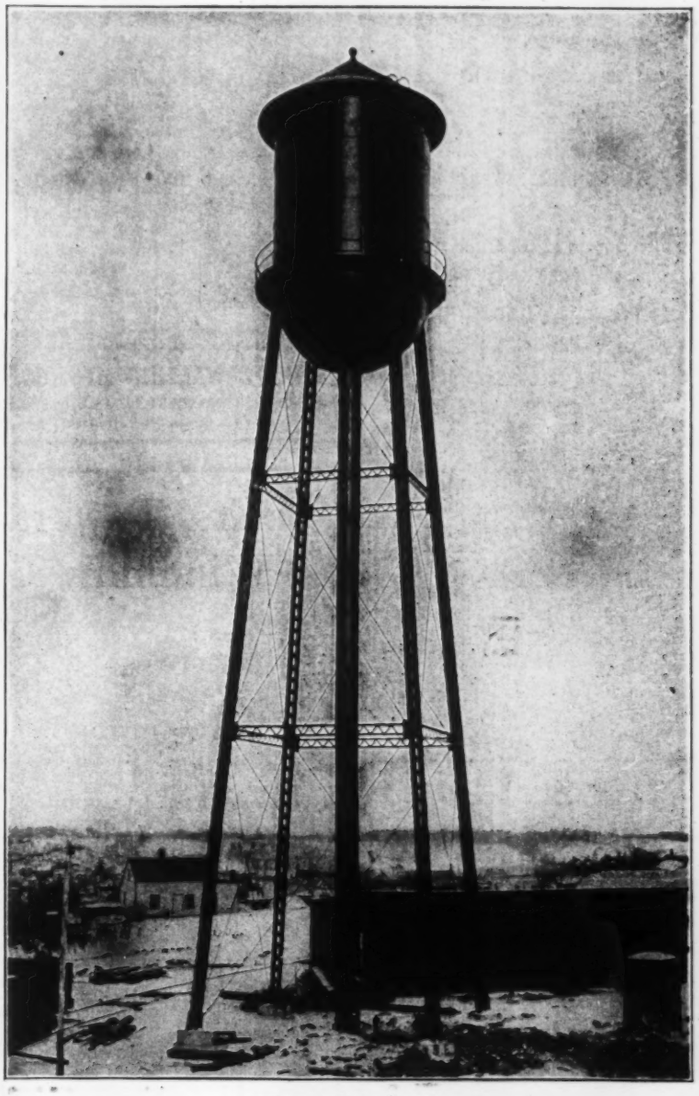

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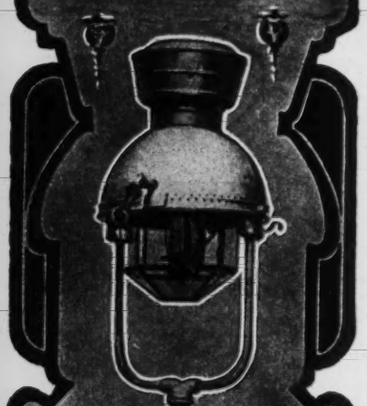

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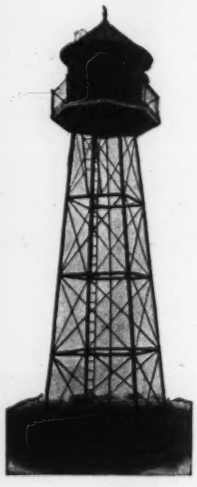

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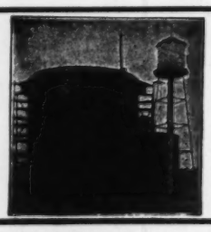

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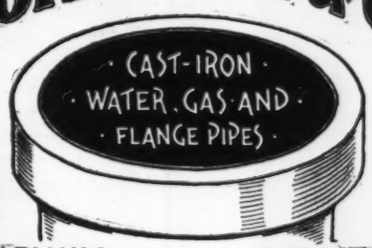

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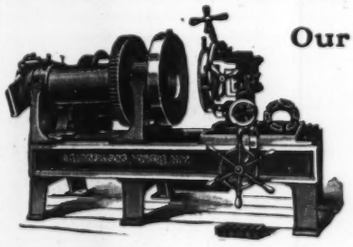

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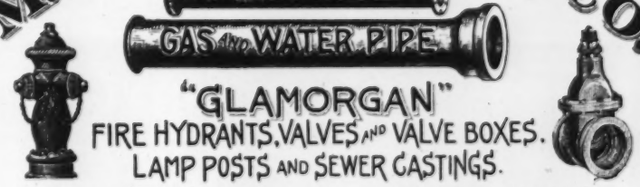

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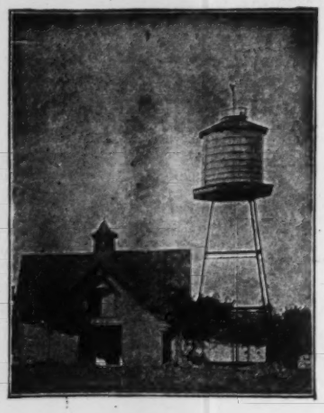

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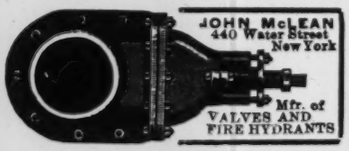

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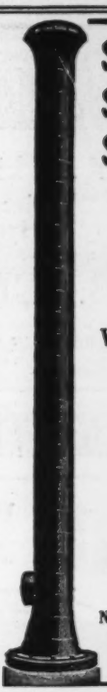

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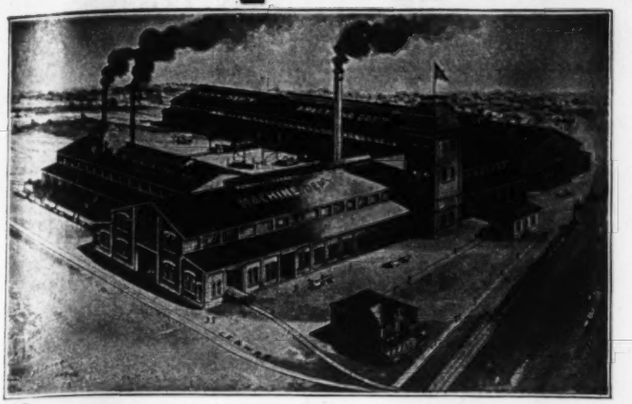

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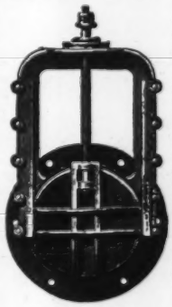

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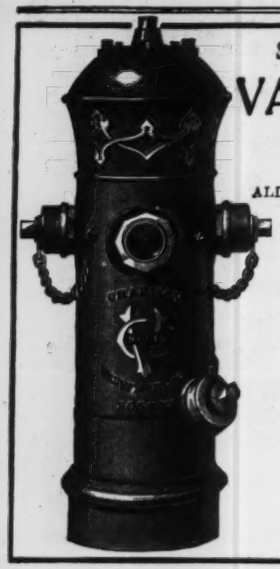

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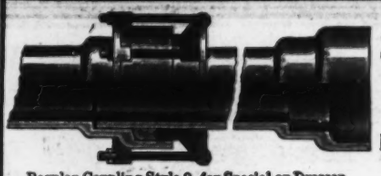

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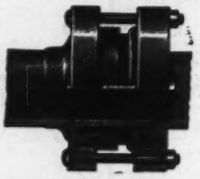

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CHAPTER I.—Introduction. Comparing British and American Conditions and Summarizing British Practice. PART I.—11 Works Employing Contact Beds for Final Treatment. PART II.—5 Works Employing Percolating Filters for Final Treatment. PART III.—5 Sewage Farms. PART IV.—3 Chemical Precipitation Works. Two Appendixes Describing Three Continental Works and Defining Typical Processes of Sewage Treatment.

This volume is devoted wholly to existing municipal sewage works and is founded on notes made by the author during a tour of inspection ending in June, 1904; the description being afterward revised by the engineers or managers of the various works.

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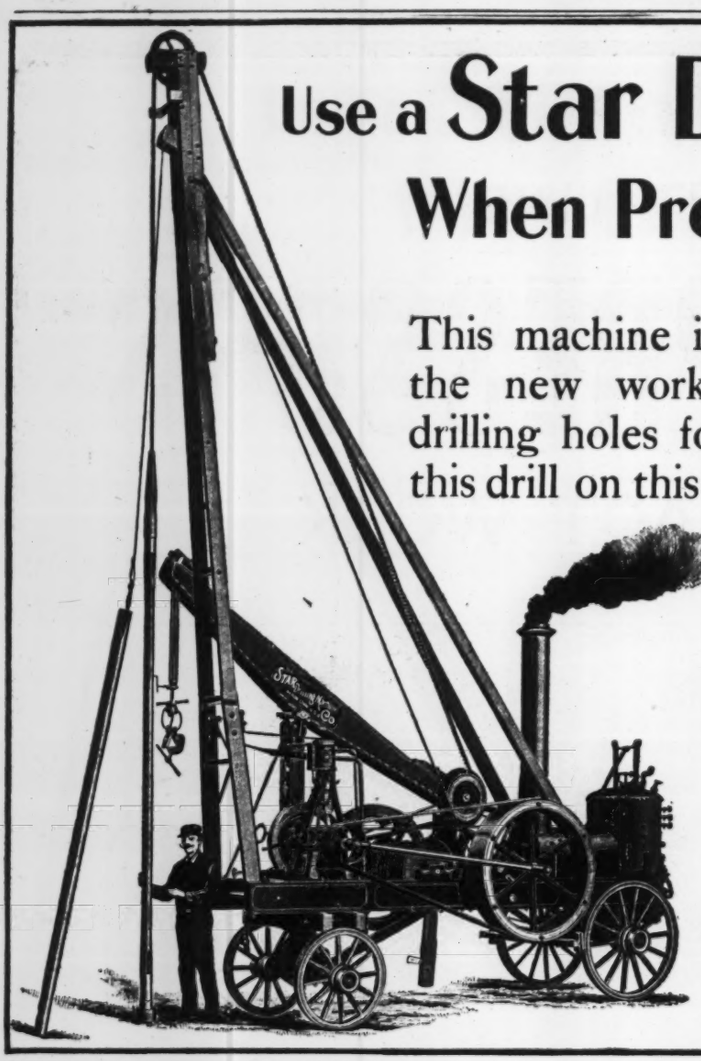

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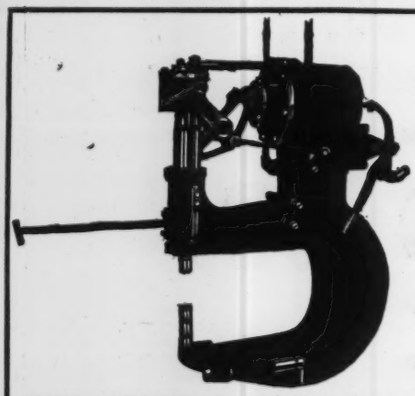

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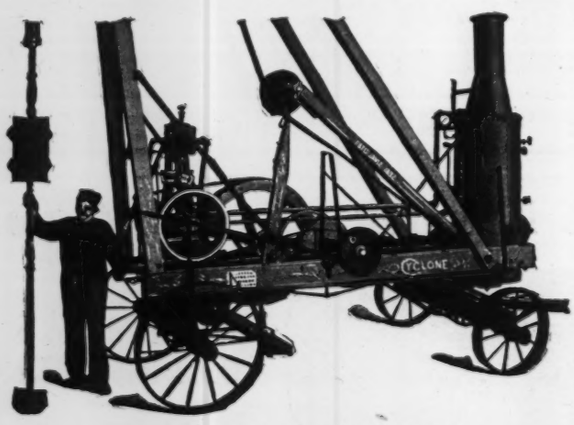

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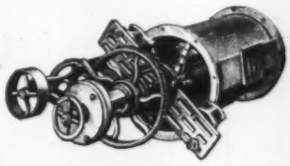

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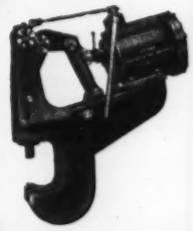

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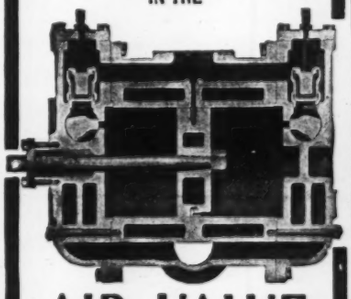

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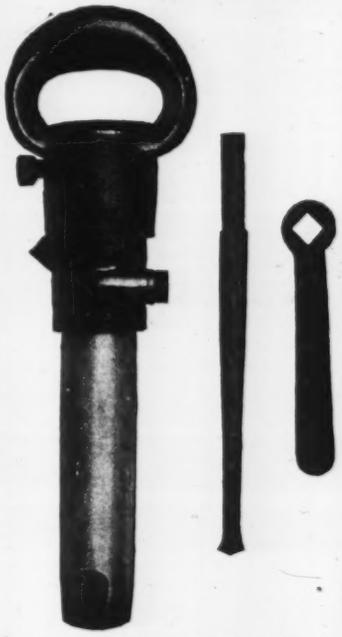

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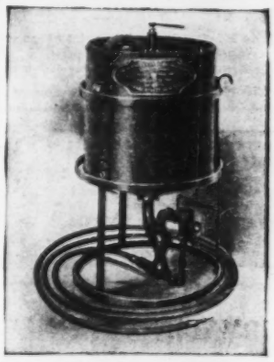

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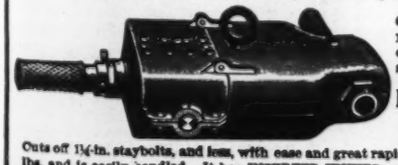

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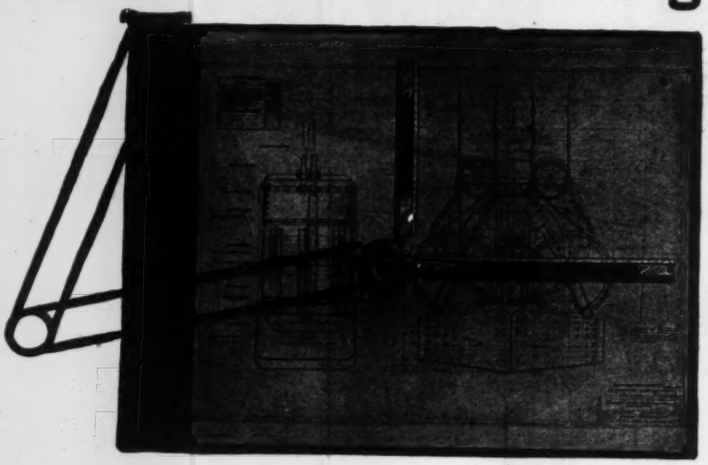

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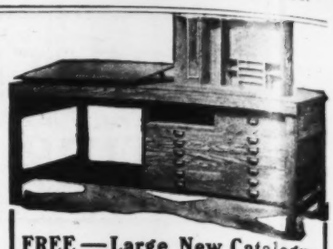

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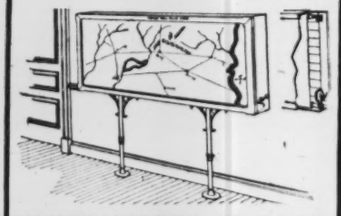

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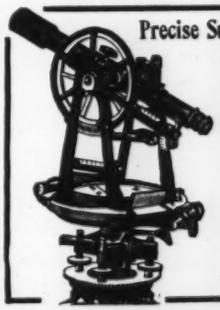

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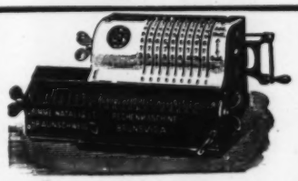

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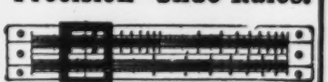

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All experienced and responsible engineers, contractors and other technical men are close readers of this journal. One and all are prepared at a moment's notice to leave for foreign countries to undertake important work. You can get in touch with these men by inserting a "Situation Open" (or Vacant) advertisement in our columns. A number of foreign engineers have done this, selecting entire parties, or corps, from the answers received. The rate is 3 cents a word set solid, or $1.50 an inch when displayed, a time.

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220 Broadway, New York, N. Y.
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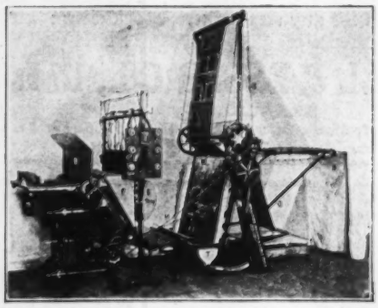

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"Have known ENGINEERING NEWS since its first publication and appreciate its value."

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"We endeavor to advise our clients to their advantage; consequently, we recommend ENGINEERING NEWS as the best advertising medium for reaching contractors, etc. We have always found ENGINEERING NEWS exceedingly obliging."

W. H. K., Iowa, May 16, 1905.

"Our recent advertisement for proposals for the steel water tower has brought us good results in the way of competitive bids."

J. N. AMBLER, City Engineer.
Salem, Va., April 29, 1905.

"You may be sure that when we have any work we will use the pages of your paper, as we think it is money well spent."

F. S. H., Illinois, May 11, 1905.

"In our judgment the ENGINEERING NEWS is about as reliable an advertising medium as there is. We consult this paper more than any other on such matters."

K. B. & C. C., Contractors, Beatrice, Neb.

"We advertised through the pages of your valuable paper for bids for water works improvements with excellent results."

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"We think that ENGINEERING NEWS is the best medium in which to place advertisements for proposals. Advertisements in the daily papers seem to us of less importance."

N. B. L. & CO., Contractors' Supplies,
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ENGINEERING NEWS, 220 Broadway, N. Y.

A Use for Every Tool and Machine

And Millions of Dollars' Worth Wanted

THERE are published in ENGINEERING NEWS each week, official "Proposal" notices and "news" items calling for bids for (or referring) to new work requiring the services of contractors, builders, architects, and engineers, the estimated cost of which approximates nearly $15,000,000. Anyone who is interested in engineering, contracting or manufacturing, can readily see what a tremendous quantity of tools, machinery, and equipment will be required by the contractors or builders alone to complete such a great amount of work.

As ENGINEERING NEWS carries more "Proposal" advertisements, and inserts a larger number of "news" items than any engineering or contracting paper, it is plain to see that the active and up-to-date engineering, contracting and building firms, read each week the advertising pages of this paper so as to know where work is proposed so that they may be able to submit bids. Every one of these firms, as soon as they have been awarded contracts **MUST BUY;** it may be only a few shovels, or it may be a steam shovel, dredge, rails, plows, locomotives, derricks, pipe, cranes, etc., etc., etc. Many of these firms buy second-hand supplies, and then sell them when they have completed their contracts.

It will pay to advertise your old machinery and tools, as many of our readers will be able to use them if they only knew where to get what they want. **Time counts with every firm awarded a contract, and it wants machinery immediately, and for this reason buyers look to our advertising pages.**

Advertise in each issue of ENGINEERING NEWS, and you will be surprised at the constant series of inquiries from buyers that will come to your office. The rate is only $1.50 an inch a time for advertisements offering for sale second-hand machinery.

Results that cost little to secure are referred to in the following letters:

"Enclosed please find check for $1.50 for my advertisement in the recent issue of your journal. This insertion brought numerous inquiries with a promptness that is satisfactory to me."
W. E. McH., Springfield, O., Dec. 7, 1905.

"The one insertion has brought us numerous enquiries, and we will no doubt dispose of our goods in a few days. Thanking you for your promptness in publishing our advertisement."
L. & McD., Danville, Ill., Dec. 5, 1905.

"With the results that we have had from ENGINEERING NEWS we would not be justified in stopping our advertisement had we any more engineering supplies. We can assure you that if we have any advertising to place along the lines in which your journal is so successful we certainly would place the same with you."
C. IRON WORKS, Minn., Oct. 19, 1905.

"We have disposed of a great part of our plant and so do not care to continue our advertisement. If we need any further publicity we will certainly place part of our advertising with you.
D. H. L., S. C.

"I have disposed of my steam shovel as a result of the advertisement in your paper. If I have anything further in the advertising line I will favor you with it."
T. J. S., N. J.

"I do not desire to continue my for sale advertisement, it having served its purpose."
A. B. S., N. Y., 1905.

"I have had good results from my advertisement with you. Yours is the only paper in which I advertise steadily."
C. F. A., N. Y.

"As we have received numerous inquiries in regard to the bridges we have for sale we will not advertise further at present."
C. N. O. & I. Ry., Cin.

"I might as well give up business if I don't keep myself before the public."
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"In the old days people made money by saving it. Now-a-days people make money by spending it." Note, for instance, the large amounts spent for advertising. It pays or people would not keep doing it. **The only question is how and in what journals can best results be secured.** Consider the amount of supplies and machinery wanted to do millions of dollars' worth of work.

Copy should be written plainly, and when possible state the space to be used and the number of insertions wanted. A Suggestion—Run the advertisement "till forbid," cheapest in the end.

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The Taxpayer Demands Lowest Cost and Good Work on Public Improvements

THERE are thousands of engineers, contractors and supply firms who want to bid on work where it is open to REAL HONEST competition. These men and firms are experienced in their lines of work, and are prepared to submit as low bids as possible and still do a good honest job.

Did it ever occur to those, who are in charge of public improvements, that only a VERY FEW local contractors read the daily papers, and that they do not look in these for business pointers? ENGINEERING NEWS for over thirty years has been able to have reported and advertised in its columns the very latest announcements regarding calls for bids for new work — public or private. Each year city, county and state officials are fast becoming satisfied that the right way to serve the public is to give the fullest public advertising possible for bids for construction work. This publicity, which will surely result in saving thousands of dollars to the public, costs only $2.40 an inch a time when inserted in ENGINEERING NEWS, which has the largest circulation among responsible contractors, engineers and manufacturers. No other paper in the world carries anywheres near the amount of Proposal advertising as does ENGINEERING NEWS.

Every city should see that NO laws are in force that prevent the officials in charge of certain work from using an outside contractors' paper like ENGINEERING NEWS. It is "penny wise and pound foolish" to attempt to save a few dollars in advertising in local papers only, and omitting ENGINEERING NEWS, thereby receiving higher bids from a few local firms.

Don't forget that Philadelphia lost millions by NOT advertising in the engineering papers, as only local firms submitted bids

The experience of those who have used our pages should interest you, and therefore we append a few letters sent us (unsolicited).

WHERE COMPETITION HAS SAVED MONEY

"Replying to your favor relative to advertising for bids on work, I beg to say that I have no work on hand at the present time requiring such advertising, but when the proper time comes will be glad to avail myself of your facilities, which I know from past experience, enables one to REACH PRACTICALLY EVERY CONTRACTOR AND ENGINEER IN THE COUNTRY."
J. R. C., C. E., N. Y., June 1, 1905.

"We have advertised with the best results for BIDS FOR RAILWAY WORK. We have made, and intend to make, fullest use of your very excellent publication."
T. H. M., Ch. Engineer, S. R. R. Con. Co., Syracuse, May 25, 1905.

"We have had a good many inquiries to bid on the DRAINAGE WORK which came through the subscribers of your paper, and feel well paid, and consider the money well spent."
F. S. H., Geneseo, Ill., May 23, 1905.

"We receive the News weekly and look upon it as indispensable to a modern engineering office, and should not know how to do business without it."
F. G. C., Designing Engineer, Kansas City, Oct. 24, 1905.

"Beg to say that I have always used your excellent publication for PROPOSAL ADVERTISING WITH GOOD RESULTS." W. W. L., Consult. Engr., Fla. Nov. 9, 1905.

"Your paper REACHES ENOUGH OF THE WESTERN CONTRACTORS who are in a position to personally inspect the proper drainage work before submitting bids."
W. J., Engineer-in-Charge, Montpelier, Idaho, May 27, 1905.

"I have written the City Engineer suggesting that your paper be used in connection with the Proposal advertising. I consider your paper the BEST ADVERTISING MEDIUM FOR PUBLIC WORKS OF ALL DESCRIPTIONS."
J. G., Wis., Oct. 20, 1905.

"The bids for the S. R. Canal were too high, but the advertisement in your paper was satisfactory in every way."
G. W. Z., Ch. Engr., Wyo., May 5, 1905.

"I advertised in ENGINEERING NEWS, the Sunday Herald and Sunday World. I received about 3 answer each from the Sunday papers, and about 30 from the NEWS. Some of the latter were from remote points."
R. L. W., Brooklyn, May 5, 1905.

"Please do not insert our advertisement for bids on brick paving this week as we have more contractors after us than we can supply with specifications—one insertion was enough. Thanks for your excellent service."
J. S. H., Engr., Washington, Sept. 3, 1905.

Your CONSTRUCTION WORK can be well done and quickly done if you allow up-to-date firms to bid, which can be effected by advertising in ENGINEERING NEWS, the business pointer for all engineering and contracting firms. Rate $2.40 an inch a time.

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IF YOU ARE IN THE MARKET

for materials, no matter how small, not advertised in Engineering News, write us stating your wants, and we

WILL REFER YOU TO THE RIGHT FIRMS

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ISTHMIAN CANAL COMMISSION
OFFICE OF MINING DEPARTMENT

Engineering News Publishing Co.
220 Broadway, New York City

Empire, Canal Zone
July 8th, 1905

GENTLEMEN:

I have received a large number of valuable catalogues for the reference library of the Mining Department, Culebra Division, Isthmian Canal, in answer to the reading notice which you kindly inserted in a recent number of your magazine. I wish to again endorse the ENGINEERING NEWS as a valuable advertising medium. These catalogues have been carefully indexed and filed and are in daily use making up the specifications for the purchases of supplies and machinery for the Canal construction.

Very truly, W. D. WALTMAN, Supervisor of Mining.

No manufacturer of engineering and contractors' supplies can afford to be without ENGINEERING NEWS each week

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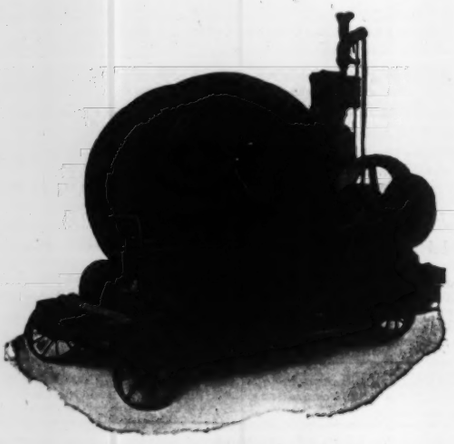

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CIVIL ENGINEER, eight years' experience design, detailing and estimating structural steel for buildings, experienced design and construction reinforced concrete structures, acquainted building trade New York City, desires position superintendent or designer, preferably with general contractor making specialty reinforced concrete work. Address "Z. 20," Engineering News, New York. 24-4t

SITUATIONS WANTED

See first column for rates

FIRST-CLASS resident and division engineer on construction wants position with railroad or contractor; lowest salary, $150 per month; speaks Spanish. Address "B. 22," Engineering News, New York. 22-5t

ENGINEER (26), C. E. graduate; 4 years' practical experience; open for engagement Jan. 1; municipal, hydraulic or railroad engineering. Address "F. A. 21," Engineering News, New York. 21-6t

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CIVIL ENGINEER (30), graduate; 6 years' experience on R. R. work, mostly location and construction; good knowledge of concrete, desires position as resident engineer on construction or inst. man with residency in prospect; South or West preferred. Address "L. 25," Engineering News, New York. 25-2t

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See first column for rates

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GRADUATE C. E. (30), 5 years' general experience, principally with large railroad company, 4 years with present employer, desires change. Address "W. 22," Engineering News, New York. 26-4t

CIVIL AND MINING ENGINEER desires responsible position. Age 28, technical graduate, 8 years' experience in surveying, drafting, designing and construction, principally railroad and mine work. Salary $125 per month. First class references. Address "B 26," Engineering News, New York. 26-3t

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Bridge and Structural Engineers.

EXPERIENCED ENGINEER on grading, masonry, concrete, pile driving wooden and steel bridges, wants change; preferably division engineer or erecting superintendent for bridge company; speaks Spanish. Address "R. 22," Engineering News, New York. 22-12t

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WHEN about to engage new technical help, we ask our readers to write to the advertisers in our "Situations Wanted" columns, pages 32, 33, 34. Letters addressed to keyed advertisers will be forwarded, at our expense, immediately on receipt, as we are not at liberty to give names of such advertisers. If the kind of assistance wanted is not advertised, write us and we can, no doubt, help you immediately and without cost to you.

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THAN WITH OIL BEARINGS
EXPENSE OF OIL SAVED Write for information and we will tell you all about it.
NORTH AMERICAN METALINE CO.
6 West Avenue, LONG ISLAND CITY, N. Y.

SITUATIONS WANTED

See first column for rates

Surveyors.

WANTED.—Position as transitman or engineer at one hundred a mo... years' experience; age thirty-two... prepare estimates and compute di... Address "O. 18," Engineering ... York. 18-12t

STUDENT of International C... Schools, taking surveying ... is open for a position as r... man or transitman on a ... experience wanted more ... Address "P. 24," Engineeri... York. 24-5t

YOUNG MAN desires position ... as rodman with engineering ... railroad survey; good ref... BLOMBERG, Highlands, ... 24-3t

TRANSITMAN wants position ... general engineers or contractors; two years' technical school; three years' practical experience on location, surveys and construction; leave present position Dec. 31; references from employers. Address "P. A. 25," Engineering News, New York. 25-2t

Draftsmen.

STRUCTURAL DRAFTSMAN, technical graduate, 10 years detailing, checking, estimating, designing; full charge of mill and office buildings. Address "L. 24," Engineering News, New York. 24-3t

MECHANICAL DRAFTSMAN, five and a half years' experience on locomotives, four years' general engineering, desires position in New York, New Jersey or Eastern Pa. Address "E. A. 24," Engineering News, New York. 24-3t

Superintendents, Misc., etc.

A YOUNG MAN with civil engineering training, skilled in structural steel and bridge designing and detailing, of good business and executive abilities, wants an executive situation in New York. Minimum salary $2,100 per annum. Address "A 15," Engineering News, New York. 15-12t

FOREMAN OF MASONRY, age, 41, desires position; first-class mechanic; thoroughly understands all classes of masonry, deep foundation and concrete; can give the best of reference from past employers. Address "B. A. 17," Engineering News, New York. 23-6t

ENGINEER, thorough and practical, has handled work for contractors, wants position as superintendent or engineer. Address "B. 25," Engineering News, New York. 25-2t

A SUCCESSFUL ENGINEER, executive, of high standing, of wide and thorough experience, former Chief Engineer, who is at present in Porto Rico as Asst. Consulting Engineer for a large enterprise, accustomed and able to handle forces of men and deal with individuals, familiar with details of manufacturing, selling and buying, desires engagement as manager or superintendent of manufacturing plant, anywhere, beginning of next year. Address "K. 24," Engineering News, New York. 24-3t

EXPERIENCED manager and constructing engineer open to engagement; 15 years in charge of building railroads, large cofferdams, several tunnels, masonry, steam shovel work, concrete, pile and trestle bridges, deep foundations. Address "F. A. 18," Engineering News, New York. 24-8t

FOREMAN or superintendent wishes a steady position with some established firm; have had twelve years' experience on public works, building dams, reservoirs, pumping stations, power plants, canals, installing sewers and water systems; a good knowledge of reinforced concrete; can furnish best of references. Address "L.," Engineering News, 170 Sumner St., Boston, Mass. 24-3t

EXPERIENCED ACCOUNTANT and bookkeeper, Englishman, age 28, thorough knowledge of bookkeeping, pay-rolls, costs, and general duties of a mine office or contractors, desires position; will go anywhere; excellent references. Address "S. 24," Engineering News, New York. 24-4t

WANTED.—Position as concrete foreman; prefer concrete on street paving; made an excellent record past season; furnish A1 references; at liberty after Jan. 1; would consider a sub-contract on concrete. Address "S. 25," Engineering News, New York. 25-2t

NOTICE—Want columns of this journal are for the special benefit of persons looking for change of employment or of firms wanting additional help. Persons answering want advertisements outside of the agency column, and finding that the advertisement is in any way connected with employment bureaus, will confer a favor by notifying Engineering News immediately.

Other "WANT" Advertisements may be found on Page 34

SITUATIONS WANTED
See first column for rates

ENGINEER AND SUPERINTENDENT, or manager for large contracting firm, desires change, about Jan. 1, for broader field; technically educated, both civil and mechanical engineering; age 37; M. Am. Soc. C. E.; broad and comprehensive experience in general engineering and contracting, having had full charge of designing and constructing important works during past 12 years. Experience on railways, canals, rivers, harbors, dredging, excavating, earth and rock tunnels, sewers, water-works, reservoirs, docks, wharves, difficult foundations, masonry, massive concrete structures, submerged structures, cofferdams, caissons, estimating cost, bidding on and executing contract work, purchasing supplies and machinery, handling large forces and executing difficult work. Full information on request. A1 references from past and present employers. Sober and industrious. Prefer position with contracting firm north or east. Replies will please state nature and length of employment. Salary, $5,000 per annum. Address "G. A. 21," Engineering News, New York. 21-7t

SUPERINTENDENT or general foreman, practical man, 35, sober, reliable; experience on foundation work, bridge erection, dams, reservoirs, etc., wishes a change; foreign or domestic; will not consider less than $200.00 per month and all expenses. Address "D. A. 24," Engineering News, New York. 24-3t

CONSTRUCTION SUPERINTENDENT and engineer; age 37; wide and diversified experience for 12 years; university education in civil, hydraulic, electrical, mining, railroad and mechanical engineering; experienced in order as given; marked success on extensive works requiring large numbers of men; employed at present; permanent position with strong company desired; any place, any time; best references. Address J. BART, Palo Alto, Cal. 25-6t

SITUATIONS OPEN (or Vacant)

Rates 3 cents a word a time, set solid; 4 cents single leaded; 4½ cents double leaded; display $1.50 an inch. Miscellaneous wants are the same rate. Copy for Classified Advertisements may be left at any office of the American District Telegraph Co., New York City.

DRAFTSMEN.—We have positions now open for draftsmen. Call or address WESTERN ELECTRIC COMPANY, Chicago, Illinois. 22-16t

STRUCTURAL engineers, checkers and draftsmen of high grade ability can secure positions in the drafting room of a large contracting firm paying good salaries, by addressing "D. A. 23," Engineering News, New York. 23-4t

SALESMAN WANTED.—A young man having an acquaintance with architecture and the building trade to solicit and negotiate contracts for structural and ornamental iron work; must have tact and perseverance and be a good trader; a suitable salary for the right man; communications confidential. Address "W. 24," Engineering News, New York. 24-4t

WANTED.—At once, competent draftsman for six months' work on maps. Apply by letter only, furnishing specimen of work, and giving references to CONSOLIDATED WATER COMPANY, 234 Genesee St., Utica, N. Y. 26-1t

WANTED.—A strictly first-class foreman, thoroughly familiar with riveted work and must be first-class all-around mechanic. High salary paid for right man. Excellent opportunity for advancement. Address "X 26," Engineering News, New York. 26-1t

WANTED.—A draftsman, competent in detailing and checking highway bridges and structural work. Permanent position to right man. YORK BRIDGE CO., York, Pa. 26-3t

WANTED.—About ten first-class draftsmen for structural work on buildings in New York City. State age, references and salary expected. Address "Z 26," Engineering News, New York. 26-1t

WANTED.—Experienced engineering graduates to design and estimate steel bridges and buildings. McCLINTIC-MARSHALL CONSTRUCTION CO., Pottstown, Pa. 26-tf

WANTED.—Engineer, to enter company in active work constructing and financing electric and steam railways and water powers; prefer engineer with some capital and good connections. Address "H. A. 25," Engineering News, New York. 25-3t

WANTED.—Graduate engineer to assist in calculations and estimates of structural steel for buildings. Address, giving age, education, experience, references and ideas regarding salary, GEO. E. THACKRAY, Structural Engineer, Cambria Steel Co., Johnstown, Pa. 25-2t

WANTED.—Estimators and draftsmen on structural steel work for buildings, etc. Young men and graduate engineers with some experience preferred. State which position is desired and give full particulars regarding age, education, experience, salary expected, with names and addresses of references. GEO. E. THACKRAY, Structural Engineer, Cambria Steel Co., Johnstown, Pa. 25-2t

AGENCIES or BUREAUS
5 cents a word.

THE BEST RESOLUTION

A man can start the NEW YEAR with, is to secure the position for which he is best adapted. Our business is to help you find that place. We may now have it among the thousands on file at our various offices in the larger cities. If your name is not listed with us, it should be. *Write us for information to-day.*

HAPCOODS,
Suite 511, 309 Broadway, New York City

MISCELLANEOUS WANTS

Cards under this head are inserted in uniform style, in solid type, at 3 cents a word (address to be counted); displayed (to occupy not less than one inch space), $1.50 an inch. Cash MUST accompany the order in all cases. Copy for Classified Advertisements may be left at any office of the American District Telegraph Co., New York City.

WE BUILD sheet-metal construction work for engineers and contractors who are proprietors of meritorious devices and who desire the resources of a well equipped factory, combined with an efficient sales department, for the manufacture and marketing of their apparatus. We are also in a position to finance promising propositions.
THE NORTH PENN IRON CO.,
Third and Erie Aves., Philadelphia, Pa.

WANTED.—Will pay 50c. for 1 copy (plus postage) for Engineering News of Nov. 4, 1882, and 15c. each for July 6, 1899, Feb. 15, 1900, April 4, 1901, June 27, 1901, Feb. 12, 1903, and 10c. each for Sept. 14, 21, 28, and Nov. 16, 1905. "A. R. T.," c/o Engineering News, New York. tf

WANTED, REPRESENTATIVES.—A number of reliable, energetic firms or individuals desired in the States, Canada, South America and abroad to handle a new line of turbine pumps. Address "X. 24," Engineering News, New York. 24-4t

ONE 2d-hand 10 ft. centrifugal dredging pump, preferably direct connected with vertical engine. ROOM 1104, 17 Battery Place, New York. 25-2t

BUSINESS MAN with some means to join engineer of ability and form construction company. Address "C. 25," Engineering News, New York. 25-2t

ADVICE on all kinds of structural work given in the evening. Address HESSE AND FRIEND, Room 39, 39 Cortlandt St., New York. 19-12t

LABORERS
Supplied for Railway, Water-Works, Quarry and other lines of construction work, in the United States and Canada. Estab. 1890.
JULIAN BROS., 110 Mott Street, N. Y.
Telephone, 2358 Franklin
BRANCH OFFICE, FORDWICK, VA.

MIKE LALLI
46 Mulberry St., New York
Italian Laborers
Supplied for all kinds of Construction Work

Factories Wanted

OGDEN CITY, UTAH, located on four railway lines desires to assist the building of new factories or the relocation of old ones that find competition too keen where now located. For further information address

WM. GLASMANN, Mayor
Chairman, Committee of Business Men's Club

AGENTS WANTED

to solicit contracts for a street road or pavement possessing many advantages over our present roads. New in this country, but successfully laid in Europe for the last thirty years.

Address, MUNICIPAL, c. o. Engineering News
New York 26-1t

LABORERS

Immigrants of all nationalities supplied at short notice in large or small numbers for railroads, mines, and all other works. Strikes attended to.

S. S. SCHWARTZ'S LABOR AGENCY
113-115 First Street, New York, N. Y.
Established 1897 Tel. Call, 2469 Orchard
25-4t

FOR SALE

Space under this head is sold at the uniform rate of $1.50 an inch; minimum charge, $1.50 a week.

SECOND-HAND ENGINE, DERRICK, ETC., FOR SALE.
The Boston Transit Commission, 15 Beacon Street, Boston, has the following second-hand plant for sale: 1 cubical concrete mixer; 72 elevator buckets, with belt; 1 undermounted boiler and engine; 1 boom derrick; 4 steel wheelbarrows; 70 cable clamps, etc. A descriptive circular and further particulars may be obtained by calling at the office of the Commission, 15 Beacon St., 8th floor, or will be mailed on application. The Commission will for a short time receive bids on this plant and reserves the right to reject any and all bids and to accept whichever bid it deems for the best interest of the City of Boston.
By order of the Commission.
B. LEIGHTON BEAL,
24-3t Secretary.

FOR SALE

2 Lidgerwood Cableways, 300 and 400 feet
22-ton, 30-ton and 12-ton standard gauge saddle tanks
40-ton 6 wheel switcher 17 x 22
2½-ton Traveling Derrick, self propelling
50-ton relay 25 pound rails, new rails all weights
CHARLES F. AVERY, 45 Broadway New York

FOR SALE
One No. 4 Austin Gyratory Crusher.
One No. 5 Austin Gyratory Crusher.
The No. 4 Crusher has been used for a short time only and is in first-class condition.
The No. 5 Crusher has never been operated and is absolutely new.
DUNBAR FURNACE CO.
DUNBAR, PA. 22-3t-eow

IDAHO CEDAR POLES
Buy Direct from the Producers
HUMBIRD LUMBER CO., Ltd.
SAND POINT, IDAHO
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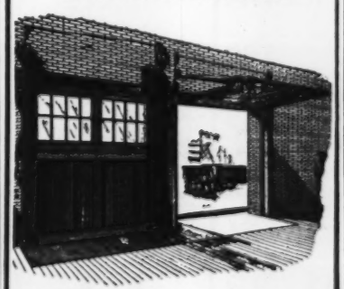
FOR SALE
Locust and Chestnut Fence Posts
Chestnut Trolley and Telephone Poles
Hardwood Piling. Mining Timber
The Culbertson Lumber Co., Ironton, O.
t.f.e.o.w.

VARIETY MFG. COMPANY
77 West Lake St., CHICAGO



Freight-House Doors

"ALL ABOUT CUBA"

READ The Cuba Review & Bulletin, a beautifully and artistically illustrated monthly magazine. Publishes special reports on the production, etc., of all Sugar Estates on the Island, of incalculable value to engineers and sugar machinery manufacturers.
A Sample Copy for the asking
CUBA REVIEW & Bulletin
Munson Steamship Line, Publishers
82 Beaver Street, New York City

FOR SALE
See first column for rates

FOR SALE CHEAP
All sizes and any quantities of
Second-Hand Pipe and Boiler Tubes
In first-class condition.
Also second-hand gate valves 2 to 8 inches inclusive.
PITTSBURG PIPE & IRON COMPANY
McKees Rocks, Pa.

FOR SALE
1200-Light Electric Plant
consisting of 100 horse-power Payne engine and 60 K. W. Edison Dynamo, in perfect condition.
LOW PRICE TO
QUICK PURCHASER
ESTATE OF HENRY C. MINER
194 Bowery, New York 24-3t

NOTICE
South Baltimore Steel Car and Foundry Co.
Have removed their office from 11 Broadway, New York City, to
66-70 Beaver St., Coffee Exchange Bldg.
We build cars of all types for contractors and industrial works.
BENJ. WATSON, Eastern Representative

Steam Shovels for Sale or Lease
1 2½ Yard Model "G" Marion Steam Shovel, with Crowding Engines.
1 1¼ Yard Improved Marion "A," with Crowding Engines.
1 1¼ Yard Marion "A," with friction crane.
2 1½ Yard Shovels, with three separate sets of engines.
THOMAS CARLIN'S SONS CO.
1600 River Street, Allegheny, Pa.

FOR SALE
CRUSHED STONE AND ALSO LIMESTONE FOR FLUX.
Quarry situated along the Hudson. Would like to make Contracts to supply firms.
Address "H 26," Engineering News,
26-1t New York.

Locations for Industries

Erie Railroad System New York to Chicago

The Erie Railroad System's Industrial Department has all the territory traversed by the railroad districted in relation to resources, markets and advantages for manufacturing, and can advise with manufacturers of specific products as to suitable locations, furnishing them with current information of a comprehensive nature, dealing with the project in its full relation to manufacture and commerce. Address
LUIS JACKSON
Industrial Commissioner
Erie Railroad Company
21 Cortlandt Street, New York

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FIFTH EDITION
Osborn's Tables of Moments of Inertia
182 Pages, Flexible Leather
Revised by
THE OSBORN ENGINEERING CO.
Price, $3.00
FOR SALE BY
ENGINEERING NEWS
220 Broadway, New York

Other "WANT" Advertisements may be found on Page 34

Situations Wanted

Received too late for pages 32 and 33. Copy should be received by Tuesday a. m.

Mechanical and Electrical Engineers.

MECHANICAL ENGINEER, college graduate, seven years' experience in general machinery, boiler and plate work, desires change. Employment with a chemical concern preferred. Address "R 26," Engineering News, New York. 26-3t

BY MECHANICAL ENGINEER and draftsman; Stevens graduate (1901); understands machine design; has inventive ability; reasonable terms. "BENJAMINS," 225 East Broadway, New York. 26-3t

Civil Engineers.

CIVIL ENGINEER (graduate), 7 years' experience, will take a reasonable amount of outside work. Expert draftsman, estimator. Schemes for railroad projects a specialty. Address "D. A. 26," Engineering News, New York. 26-2t

Draftsmen.

FIRST-CLASS DRAFTSMAN desires position in railroad office. Three years' all round experience in construction and maintenance work (field and office). University graduate. Age 25. Address "P 26," Engineering News, New York. 26-3t

EXPERIENCED DRAFTSMAN for structural iron buildings and bridges, graduate civil engineer, wants employment. Address c/o N. FLAMMETT, 2211 7th Av., Birmingham, Ala. 26-3t

SITUATION in Philadelphia desired by draftsman, age 24, six years' experience field and office; at present in maintenance of way office. Prefer experience in concrete. Address "L 26," Engineering News, New York. 26-1t

DESIGNING DRAFTSMAN (30), nine years' experience, on general machine design and construction, including dredging machinery, marine equipment, engines, boilers, conveyors and general rolling mill and foundry equipment. Thoroughly acquainted with best shop practice. Large experience figuring material and estimating costs. Has technical education and executive ability. Can take entire charge in drawing-room or field. Good reasons for desiring change. Would accept responsible position with first-class firm. Address "W. A. 26," Engineering News, New York. 26-1t

Superintendents, Misc., etc.

CONSTRUCTION SUPERINTENDENT and practical engineer, age 39, desires change Jan. 15. Had 20 years' actual experience in all kinds of railroad grading, tracklaying, ballasting, water-works, sewer, brick, stone and concrete masonry, pile-trestles, cofferdams, steam shovel and train work. Electric railways, including power houses, substations and line work a specialty. Careful estimator and organizer. Salary, $3,000 per annum. Address "M 26," Engineering News, New York. 26-3t

Surveyors.

WANTED.—Position as rodman on construction work. One year's experience in surveying and six months on tunnel construction. Open for immediate engagement. Address "S 26," Engineering News, New York. 26-3t

Situations Open

WANTED.—By large concern in Middle West, first-class structural draftsman. Permanent position for right man. Address "O 26," Engineering News, New York. 26-4t

WANTED. — DRAFTSMAN - IN - CHARGE (structural steel work), $5.52 per diem, Navy Yard, Charleston, S. C. An examination will be held at the Navy Yard, Brooklyn, N. Y., Jan. 11, 1906, to fill the above position. For application and further information, address "COMMANDANT, NAVY YARD, BROOKLYN, N. Y." 26-2t

WANTED.—Manager for sales department, manufacturer of iron heating furnaces; only competent, experienced men to apply. Address "Z. A. 26," Engineering News, New York. 26-1t

WANTED.—Structural draftsman to work in New York in consulting engineer's office. State age, experience and salary expected; permanent position to right man. Address "X. A. 26," Engineering News, New York. 26-1t

SUPERINTENDENT WANTED.—Young man, technical education, some experience preferred, to take permanent position with outdoor manufacturing concern. Must keep time and make up pay-rolls for two hundred employees. Suitable man who will apply himself can work into good position in short time. Address "A. A. 26," Engineering News, New York. 26-1t

WANTED.—Shop manager for boiler works plant; technically educated man of experience preferred; opportunity to invest $10,000 to $25,000. Excellent opening for right man. Communications absolutely confidential. Address "C. A. 26," Engineering News, New York. 26-1t

WANTED FOR WORK IN NEW YORK, draftsman who can execute rapidly tracings for lithographic reproduction, with plain, neat lettering. State experience and salary expected. Interview in New York before engagement. Address "B. A. 26," Engineering News, New York. 26-1t

Miscellaneous Wants

WANTED. — EXPERIENCED ENGINEER having several field outfits will undertake by contract or by the day preliminary, topographical and precise surveys for all purposes. Address "K 26," Engineering News, New York. 26-4t

WANTED

An Instrument Man for Maintenance-of-Way Work

One who has had experience in this line. Salary, $65.00 per month. Position permanent. Send sample of map work and references.

Address, DIV. ENGINEER, L. V. R. R.
26-1t Sayre, Penna.

Material and Supplies from the Fifty Million Dollar St. Louis World's Fair

We offer you a rare opportunity to buy General Structural Material, Machinery, Electrical Apparatus and Supplies of every kind at prices easily 30 to 50 per cent. below what they would ordinarily cost you. We are now engaged in dismantling the Exposition and can make delivery of most of this material from St. Louis, although a large proportion of it has been transported to our Main Headquarters at West 35th and Iron Sts., in Chicago. We can make you extremely low prices on anything in the line of Lumber, Structural Joists and Timbers; Matched 2 inch Planking, Dressed and Matched Flooring, We can furnish you Timbers in sizes 4x4, 4x6, 6x6, 6x8, 8x8, 10x10, 10x12, 12x12, 14x14, and in lengths from 8 to 80 feet. Also Interior Finishing Material. We have thousands of Heavy Wooden Trusses, just the thing in the construction of Factories, Shops, and the like. We can furnish lengths ranging from feet to 106 feet span. We can furnish you blue print and sketch with full details.

We have thousands of Doors for every purpose. Some of these are glazed and some are plain.

We also call your attention briefly to other items, which we think you will find of considerable importance to you.

FACTORY ENCLOSURES.

1,000,000 square feet of ¼-inch ribbed factory glass set in sash, and ranging in sizes from 2' x 2' 8" to 8' x 18', practically any size you may require. Here is an opportunity to enclose your Factory at very low cost. We are quoting this material in large lots at 6½ cts. per square foot. We can load it in car lots from either our Chicago or St. Louis Headquarters.

ROOFING GLASS.

250,000 square feet of ¼ and ⅜" thick ribbed Roofing Glass, 18" wide; lengths up to 10 feet.
Special low prices in carload lots.

"FLINTKOTE" ROOFING.

50,000 squares of this roofing for sale. It is all in two and three ply. We take it off the buildings with great care, trim the edges so that for practical purposes you have new roofing. The manufacturers give a long standing guarantee on this material, and as its service has only been from 6 to 12 months, there is no reason why it cannot be used just as well as new roofing material.

CORRUGATED IRON.

60,000 squares of good material, ranging from 28 to 18 gage; edges nicely trimmed, some with nail holes and some that we will guarantee free from nail holes. It is in Plain and Galvanized. Give us specifications and we will name you a low price for delivery from Chicago.

HYDRAULIC PIPE.

55 miles of heavy flanged hydraulic and high pressure wrought-iron lap-welded pipe, ranging in sizes from 10 to 16-inch. This pipe is flanged with tongued and grooved flanges, and will stand a higher pressure than any pipe manufactured. We can furnish with this pipe Crosses, Ells, Tees and a full line of valves to match.

STANDARD WROUGHT-IRON PIPE.

6 miles of all sizes of standard wrought-iron lap-welded pipe, in sizes from ⅜ to 16-inch.

OTHER PIPE.

Cast-iron pipe in sizes from 6 to 36".
Tile pipe from 6 to 42".
Riveted pipe from 8 to 96".
piral riveted pipe from 4 to 36".
Extra heavy wrought-iron pipe, sizes from 3 to 12-inch.
Square wooden pipe, 4½ x 4½".
Pipe of every kind.

ELECTRICAL APPARATUS.

100 miles of Stranded Copper, Triple Braid and Rubber Covered Feed Wires, sizes 1/0 to 600,000 C. M.
2,000,000 lbs. Rubber Covered and Weather-proof Copper Wire, sizes from No. 14 to 500,000 C. M.
1,600,000 lbs. Lead Covered, Rubber Incased Copper Cable, Single and Three Conductor, sizes ranging from No. 14 to 500,000 C. M.
150,000 brand new Incandescent Lamps, never used, General Electric make, 8 candle power, 100 to 104 voltage.
300,000 good second-hand Incandescent Lamps, 8 and 16 candle power.
20,000 Natural color brand new Incandescent Lamps, General Electric make, 104 voltage, 8 candle power, in all colors.
,000,000 No. 9171 Porcelain Receptacles, Edison base.
All kinds of Tubes, Cleats, Knobs, etc.
1,000 sets of Insulated Trolley Hangers.
50 Trolley Crossings.
2,000 Trolley Braces, 9 feet 6 ins. and 10 feet.
Switches, Fuse Plugs, Sockets, etc.
Voltmeters, Ammeters and Wattmeters.
50 Motors, 500 volt, from 1 to 15 HP.
3 100 KW. "Maloney" Transformers.
50 Transformers of smaller sizes.
An enormous stock of other items in the Electrical Line.

HIGH PRESSURE VALVES.

500 extra high pressure, especially constructed brass trimmed valves, sizes 12 to 42-inch, which we offer at a saving of at least 40% from the price of new valves. We guarantee them in absolutely first class condition. All valves are tested before shipment. Also valves of all kinds. Send for our complete list.

WATER HYDRANTS.

1,000 "Corey" and "Pratt-Cady" Water Hydrants, used on high and low pressure systems at the Exposition.

U. S. GOVERNMENT BUILDING.

We own the building used at the St. Louis Exposition by the U. S. Government. It was constructed at an enormous expense and was built of steel and iron. Its dimensions are approximately 200 x 700 ft. It is strictly modern. Can be used for Factory Building, Railroad Terminal, Auditorium, Exhibition or a Building of any kind where large clear space is needed. Full specifications, photograph and blue prints furnished on application.

MACHINERY.

Always on hand complete stock of High Speed Engines, ranging from 5 to 800 HP.
250 Boilers from 10 to 250 HP. In this lot we have three "Heine" Water Tube Boilers, 250 HP., for immediate shipment; three "Heine" Water Tube Boilers, 150 HP.
All kinds of Pumps, Heaters, Compressors, etc.

HEATING APPARATUS.

3,000 wrought-iron pipe steam Radiators, about 36 inches in height, cast-iron bases, fancy tops.
Also 250 cast-iron Radiators for steam and hot water, in all sizes.
Heating Boilers, Pipe, Radiators, Valves and Heating Apparatus of every description.
Send us sketch of space or building you wish to heat, and we will make you a proposition for supplying you with all of the needed material.

THOUSANDS OF OTHER ITEMS.

80,000 Hewn Ties.
30 Sets of Switch Ties.
500 Frogs, Crossings, etc.
Switch Stands.
10,000 Pressed Steel Rail Braces.
Rail Benders and Drills.
5,000 Ohio Brass Co.'s. Solid Terminal 37-inch Rail Bonds.
200 "Brights" Registering Turnstiles.
200 Roll Top Desks.
200 Typewriters' Desks.
150 Directors' Tables.
23,000 Bamboo Poles, 40 feet long.
1,000 Flag Poles, assorted sizes.
5,000 Assorted Flags.
100,000,000 feet of Highly Seasoned No. 1 Southern Pine Lumber.
3,000 Decorated Uniforms.
3 Railroad Trestles, averaging 200 ft. long.
100,000 Doors.
1,000 Water Closets.
350 Cast-Iron Bath Tubs.
1,000 Lavatories.
All kinds of Plumbing Material.
50,000 ft. 2½-inch Cotton, Double Jacketed Fire Hose.
40,000 ft. 4-ply Rubber, 1½-inch Fire Hose.
2 complete Fire Departments.
150 Monitor Turret Revolving Stand Pipes.
2,000 tons of Wrough-Iron Rods and Bolts.
Office Furniture of every kind.
Commissary Supplies, including Bedding, Chairs, Tables and the like.
5,000,000 Unused Exposition Tickets on rolls.
50 Ticket Chopper Boxes.
50 Special Coin Receiving Registering Machines.
Thousands of handsome Statues in single figures and groups, to be taken down carefully and used for park decorations.

Ask for our Special Exposition Catalogue No. 258

CHICAGO HOUSE WRECKING COMPANY

35th and Iron Streets, Chicago — World's Fair Grounds, St. Louis

Twenty Thousand Executive Officers of Manufacturing Concerns

How much will you pay for such a list? **Guaranteed** up to date.

How much will you pay to have a series of 24 letters sent to this list, one every half month for a year, printing and postage included?

One moment. Don't say you haven't the $10,000 to $25,000 to spend.

American Industries

(Official Organ of the National Association of Manufacturers)

will give you a **conspicuous** quarter-page, 4½ x 6 size, next reading matter, every issue for one year for

$800

It has the 20,000 manufacturers on its mailing list — and no others. Not one copy is wasted. Its advertisers get surprisingly good results. Please write me for proofs.

Adv. Manager American Industries

800 Maiden Lane Building, New York City

RUSSEL WHEEL & FOUNDRY COMPANY

CAR DEPARTMENT

DESIGNERS AND BUILDERS

CONTRACTORS DUMP CARS

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ANNOUNCEMENT

AFTER some months of work by an expert indexer, under the supervision of the editorial staff of this journal, we are able to announce the publication of an INDEX TO ENGINEERING NEWS, covering the period from 1900 to 1904, inclusive. This index follows the same lines as the one issued a few years ago for the ten years from 1890 to 1899, inclusive; but the new index is nearly as large as the one for the earlier period, on account of fuller indexing and the increase in the number of articles published. Together the two indexes contain about 50,000 references, covering thirty half-yearly volumes of ENGINEERING NEWS, in which may be found a very complete record of the best engineering work and thought of the past fifteen years. The usefulness of these consolidated indexes is very apparent.

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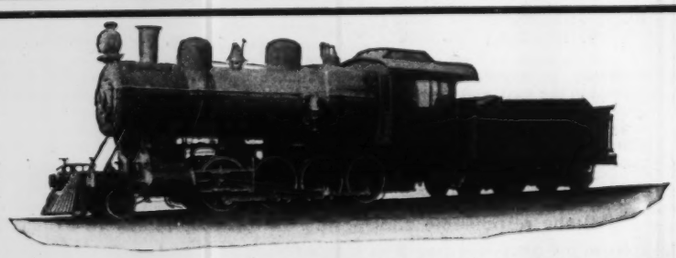

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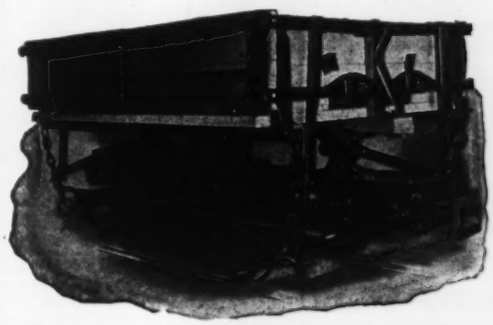

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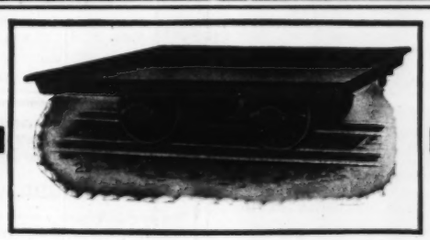

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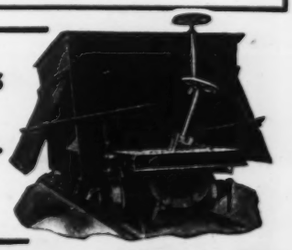

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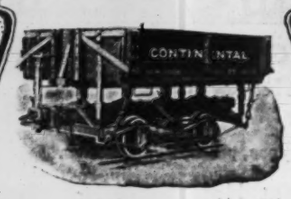

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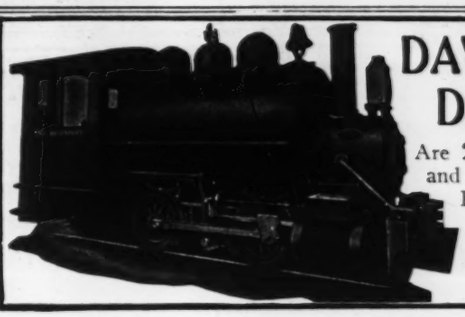

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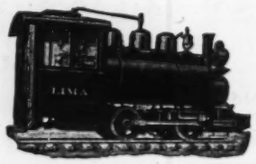

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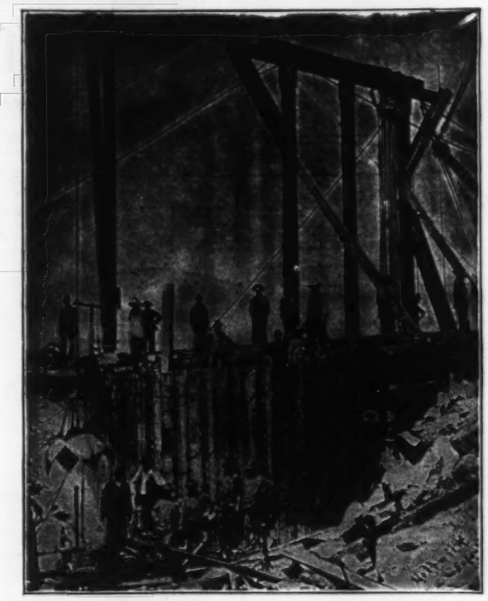

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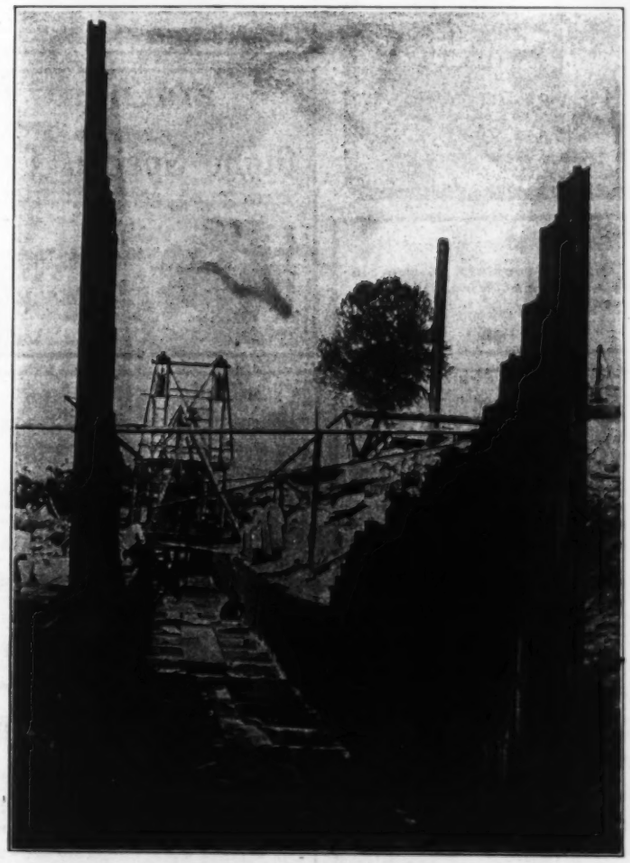

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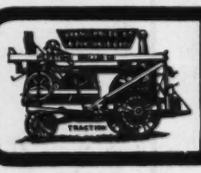

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Plans, profiles and instructions for seeing the work can be obtained at our office, 301 and 302 Terry Building, Roanoke, Virginia, where our Mr. A. F. MacArthur will be prepared to meet contractors on and after December 10th.

Profiles may be seen and further information obtained from our General Office, 810 Fisher Building, Chicago, Illinois, or from our New York office, Hanover Bank Building, New York City, or from the following:

A. B. Koenig, 612 Walnut Street, St. Louis, Missouri.

Atwood's Labor Agency, 303 South 12th Street, Omaha, Neb.

Atwood's Labor Agency, 902 Union Avenue, Kansas City, Mo.

Atwood's Labor Agency, 1711 Market St., Denver, Colorado.

Atwood's Labor Agency, 131 25th Street, Ogden, Utah.

Miller & Nichols, Third Street, St. Paul, Minnesota.

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24-3t MacARTHUR BROS. CO.

U. S. ENGINEER OFFICE, Jacksonville, Fla., Dec. 8, 1905.—Sealed proposals for dredging at Orange Mills Flats, St. Johns River, Fla., will be received here until 12 o'clock noon, Jan. 8, 1906, and then publicly opened. Information on application. FRANCIS R. SHUNK, Maj., Engrs. 24-4t

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DEPARTMENT OF THE INTERIOR, Washington, D. C., November 28, 1905.—Sealed proposals will be received at the office of the Engineer, U. S. Reclamation Service, Billings, Montana, until 2 o'clock p. m., January 15, 1906, for the construction of Division 1 of main canal, Huntley project, including 3 tunnels, involving the excavation of about 75,000 cubic yards of earth, some rock excavation, about 2,500 feet of tunnels, and 3,000 cubic yards of concrete, at a point about 10 miles east of Billings, Montana. Particulars may be obtained from the Chief Engineer of the Reclamation Service, United States Geological Survey, Washington, D. C., or from Robert S. Stockton, Engineer, Huntley, Montana. E. A. HITCHCOCK, Secretary. 23-6t

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See plans and specifications in Washington, D. C., Chilean Legation, 1223 17th Street; in New York, Consulate General, 135 W. 11th Street.

Plans and specifications may also be seen at the office of Engineering News, New York. 17-8t

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PROPOSALS FOR CONSTRUCTION.—Office Constructing Quartermaster, Fort Assiniboine, Montana, November 30, 1905.—Sealed proposals, in triplicate, will be received here until 11.00 A. M., December 30, 1905, and then opened, for construction of one brick Cavalry Stable for 73 horses—Plan 54 H; and also for construction of a Bacterial Sewage Purification Plant—Plan Spl. 2-707, at Fort Assinniboine, Montana, in accordance with plans and specifications to be seen at this office, also at office of Chief Quartermaster, Department of Dakota, St. Paul, Minn., and at office of Chief Quartermaster, Department of the Lakes, Chicago Illinois, where instructions to bidders and blank form of proposals can be procured Work to begin when frost is out of the ground in the spring of 1906. Bidders must state in their proposal the time they will commence and complete the work. A guarantee in the amount of 10 per cent. of amount of bid will be required. Unguaranteed bids will not be considered. The Government reserves the right to reject or accept any or all bids, or any part thereof. Envelopes to be indorsed "Proposals for Construction," and addressed to CAPTAIN J. B. McDONALD Constructing Quartermaster. 23-4t

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OFFICE OF THE BUILDING COMMITTEE, U. S. Department of Agriculture, Washington, D. C., November 24, 1905.—Sealed proposals will be received at this office until 2 o'clock p. m., on the 5th day of January, 1906, and then opened, for the installation of the Electric Wiring and Conduit Systems of two laboratory buildings for the United States Department of Agriculture, Washington, D. C., in accordance with the drawings and specifications, copies of which may be obtained at the office of the Building Committee, United States Department of Agriculture. All applications must be accompanied by a certified check for $50, made payable to the Disbursing Clerk of the Department of Agriculture, which checks will be retained until the return of the drawings and specifications. B. T. GALLOWAY, Chairman. 23-3t

---

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WATER-WORKS AND ELECTRIC LIGHT PLANT.

Argenta, Ark.

Sealed bids will be received by C. J. Humphreys, Secy. Board of Improvement, of Improvement District No. 1, City of Argenta, Ark., for the purchase of all material for the construction of the Water-Works and Electric Light plant for said City.

Bids will be opened at 12 M., Jan. 15th, A. D. 1906.

The material to be purchased will embrace the following:

2 Water Tube Boilers, 500 HP. each.
2 Corliss Engines, 225 HP. each.
2 140-KW. A. C. Generators and Exciters.
1 6-panel Switchboard completely equipped.
50 Arc Lights.
1 Arc Light Transformer.
36 Lightning Arresters.
Complete equipment of construction material, including: Poles, wires, transformers, cross arms, pins, insulators, etc.
10 Miles cast-iron pipe and specials, necessary lead and oakum.
2 Compound Duplex pumps, capacity, One Million gallons each.
2 Boiler Feed Pumps.
1 Feed Water Heater.
1 Self-supporting Steel Stack.

Alternate bids will be considered on direct connected A. C. Generators, and on high speed engines.

Specifications can be had by addressing O'Neil Engineering Company, 506 North Texas Building, Dallas, Texas, and stating the items on which Manufacturers desire to bid.

The right is reserved to reject any or all bids.

Specifications may be seen at the office of Engineering News, 220 Broadway, New York. 25-3t

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DELAWARE CITY, DEL., Dec. 12, 1905.—Sealed proposals, in triplicate, will be received here until 10.30 A. M., Jan. 11, 1906 for constructing frame wagon shed and frame fire station at Fort DuPont, Del. Information furnished on application. U. S. reserves right to accept or reject any or all bids or any part thereof. Envelopes containing bids should be endorsed "Proposals for Public Buildings at Fort Du Pont, Del.," addressed CAPTAIN LOUIS F. GARRARD JR., Q. M. 25-3t

---

OFFICE OF THE BUILDING COMMITTEE, U. S. Department of Agriculture, Washington, D. C., November 24, 1905.—Sealed proposals will be received at this office until 2 o'clock p. m., on the 5th day of January, 1906, and then opened, for the installation of the Heating and Ventilation and Special Piping Systems of two laboratory buildings for the United States Department of Agriculture, Washington, D. C., in accordance with the drawings and specifications, copies of which may be obtained at the office of the Building Committee, United States Department of Agriculture. All applications must be accompanied by a certified check for $100, made payable to the Disbursing Clerk of the Department of Agriculture, which checks will be retained until the return of the drawings and specifications. B. T. GALLOWAY, Chairman. 23-5t

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OFFICE OF THE BUILDING COMMITTEE, U. S. Department of Agriculture, Washington, D. C., December 8, 1905.—Sealed proposals will be received at this office until 2 o'clock p. m. on the 5th day of January, 1906, and then opened, for the installation of electric passenger elevators of two laboratory buildings for the United States Department of Agriculture, Washington, D. C., in accordance with the drawings and specifications, copies of which may be obtained at the office of the Building Committee, United States Department of Agriculture. All applications must be accompanied by a certified check for $50, made payable to the Disbursing Clerk of the Department of Agriculture, which checks will be retained until the return of the drawings and specifications. B. T. GALLOWAY, Chairman. 24-3t

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U. S. ENGINEER OFFICE, Wilmington, N. C., December 15, 1905.—Sealed proposals for one four-pocket bottom dump scow will be received at this office until 12 o'clock noon, January 15, 1906, and then publicly opened. Specifications, blank forms, and all available information will be furnished on application to this office. R. P. JOHNSTON Captain, Corps of Engineers. 25-4t

---

U. S. ENGINEER OFFICE, Buffalo, N. Y., November 27, 1905.—Sealed proposals for excavation in Black Rock Harbor, Buffalo, N. Y., will be received here until 11 a. m., January 15, 1906, and then opened. Information furnished on application. H. M. ADAMS, Col., Engrs. 23-2t; 26-1t; 2-1t

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PARTIAL SPECIFICATIONS FOR GARBAGE DISPOSAL OR INCINERATING PLANT FOR THE CITY OF LEXINGTON, KY.

Bids will be received by the undersigned at his office in the City Building, in Lexington, Ky., until 12 o'clock, noon, of January 4th, 1906, for the erection and completion of a garbage destructor (or incinerator).

CAPACITY.

The capacity of destructor (incinerator) must be not less than fifty (50) tons of garbage and trash in twenty-four hours. All refuse must be completely incinerated to a dry ash or clinker containing no vegetable or other decaying matter.

COST.

Bidders must guarantee that the labor and fuel cost will not exceed 50 cents per ton.

OPERATION.

Plant must be guaranteed not to cause a nuisance, and to be operated without objectionable smoke or odors of any kind other than that inseparable from the collection and handling of the refuse.

Each bidder is expected and requested to furnish complete plans and specifications for the plant bid upon.

Bidders must agree to operate the plant for a period of thirty days after completion, using labor furnished by the city.

Payments to be made in cash.

Correspondence solicited.

The right is reserved to reject any and all bids.

THOMAS A. COMBS,
Mayor.

Lexington, Ky., Nov. 25, 1905. 22-5t

Specifications may be seen at office of Engineering News, 220 Broadway, New York.

U. S. ENGINEER OFFICE, Washington Barracks, D. C.—Sealed proposals will be received at this office until noon, January 8, 1906, and then publicly opened, for millwork, glass and glazing for Army War College building. Information on application. JOHN STEPHEN SEWELL, Capt., Engrs. 24-4t

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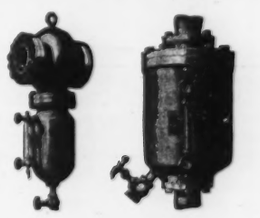

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For your own sake specify "Apollo" whenever you need galvanized sheets, and write us for a weight card if you desire information regarding gauges and weights.

AMERICAN SHEET & TIN PLATE COMPANY

FRICK BUILDING PITTSBURGH, PA.

STEEL SHED.

New Orleans, Dec. 21st, 1905.

Sealed proposals will be received by the Board of Commissioners of the Port of New Orleans at their office, Nos 601-602 Hibernia Bank Bldg., until February 6th, 1906, at 7.30 P. M., for the construction and erection of steel work for any or all of the following sheds:

Clouet	Street	Steel	Shed
Mandeville	"	"	"
Hospital	"	"	"
Picayune	Tier	"	"
Toulouse	Street	"	"
Erato	"	"	"
Eighth	"	"	"

Deposit: One Thousand ($1,000.00) Dollars. Payment: Eighty per cent. (80%) Monthly. Bond: In Full Amount of Contract.

Plans, specifications, proposal forms, etc., are on file at the office of the Engineer, J. F. Coleman, No. 920 Hibernia Bank Bldg., New Orleans, by whom full sets will be furnished on deposit of Twenty-five ($25.00) Dollars. The said deposit will be returned upon the safe return of the said set in good order.

The right is reserved to reject any or all bids. HUGH McCLOSKEY,
26-2t President.

GIRDER BRIDGE.

Cameron, Ill.

Plans and specifications on file at the office of the Engineering News, 220 Broadway, New York City, and at the office of the Rock Island Southern R. R. Co., Monmouth, Illinois. Bids will be received until January 15th, 1906.

ROCK ISLAND SOUTHERN R. R. CO.
26-1t

BUREAU OF PORT WORKS, Manila, P. I., December 20, 1905.—Sealed proposals for the construction of two steel wharves in Manila Harbor will be received until 11 o'clock A. M., April 5, 1906, and then publicly opened. Information furnished on application to this office or to the Bureau of Insular Affairs, Washington, D. C. Plans may be seen at the above offices and also at the United States Engineer Offices at Chicago and San Francisco, and at the Offices of the Engineering News and Engineering Record at New York. W. L. FISK, Lieut.-Col., Corps of Engineers, U. S. Army, Director of Port Works, Philippine Islands. 26-9t

U. S. ENGINEER OFFICE, Room C 8, Army Building, 39 Whitehall Street, New York City, December 28, 1905.—Sealed proposals for dredging in Cheesequake Creek, N. J., will be received at this office until 12 M., January 12, 1906, and then publicly opened. Specifications, blank forms, and all available information will be furnished on application to this office. W. R. LIVERMORE, Colonel, Corps of Engineers. 26-2t

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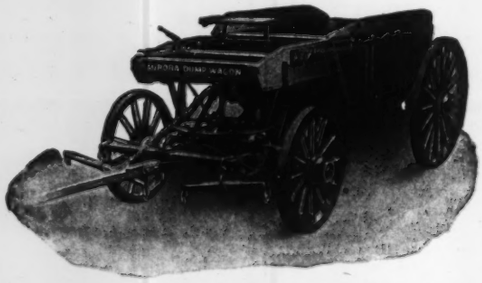

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Our new hinge lifts the door on the outside of bed when dumping, permitting low construction and retaining ample clearance. Beds of oak and Washington fir. Made with our famous unbreakable front bolster.

Used with the **Western Elevating Grader** these wagons are money-makers and money-savers.

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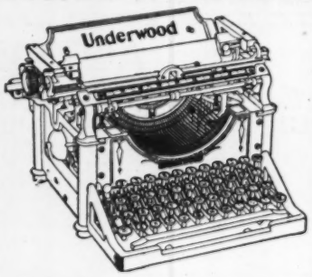

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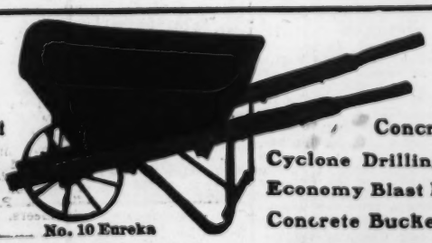

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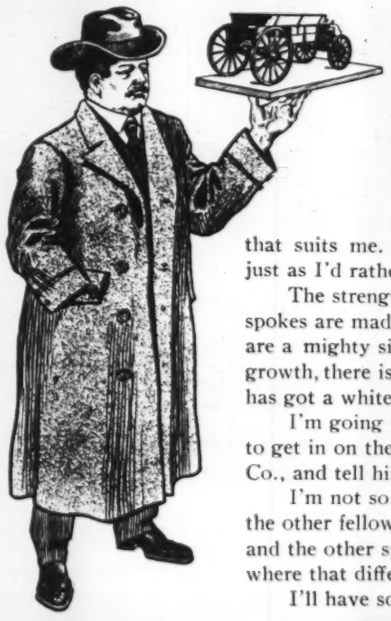

"Some fellows get knowledge by keeping their eyes and ears working full time, but more of 'em get it by working for experience that costs 'em dollars and bring 'em sense.

I knew a fellow who used to buy a different make of dumping wagon every time he got a decent contract. That experimenting fever cost him a few pennies, but he finally struck Watson dumping wagons and staid there. You see, he had been fighting shy of Watson's because he thought the price was stiff. He bought a cheaper style and paid repair bills right along until the wagon went to the scrap heap and thought he was saving money.

Cheap wagons are like sickly help. They do all they are equal to, and really all they are paid for, but they keep a fellow back on a contract. Watson's have a constitutional strength that suits me. I'd rather have a second-hand Watson than the best of all the rest fresh from the factory; just as I'd rather have a strong old fellow on my job than a puny boy who could not stand the strain.

The strength of the spokes has a good deal to do with the life of the dumping wagon. Of course, most spokes are made of oak, but there is some oak that is too 'brash' for good spoke work. White oak spokes are a mighty sight better than red oak, but there are several grades of white oak. There is an 'A' forest growth, there is a 'B' forest growth, and there is a triple 'X.' Any fellow who uses any one of these spokes has got a white oak spoke; but I have proved that the Watson used only **'A' second growth white oak.**

I'm going to give my view of the difference between one spoke and another in book form, and if you want to get in on the ground floor in this spoke matter, you just write to Jim Fellowes, care of Watson Wagon Co., and tell him you want a book.

I'm not so anxious to prove that the other fellow has poorer spokes; the fact is, I don't care much about the other fellow. I simply want you to know that there is a heap of difference between the Watson spoke and the other spokes used, and I want you to know it, and know it so hard that no one can fool you as to where that difference is.

I'll have something more to say next week."

WATSON WAGON CO.

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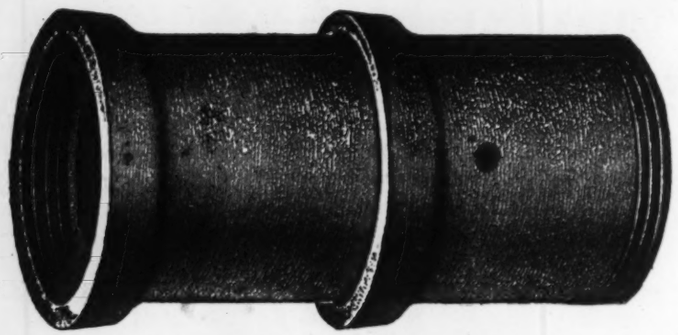
Those who contemplate western trips are invited to send for free copies of this very serviceable new booklet. Address P. S. Eustis, "Q" Building, Chicago

P98

For other Proposal Advertisements see pages 43, 44, 45, 46, 47, 48, of Advertisements and Construction News page 224.

American Sewer Pipe Company



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STEEL TOWERS.

Shreveport, La.

Bids will be received by the City Comptroller, City of Shreveport, La., for furnishing all labor and material, and erecting complete the superstructure of one structural steel tower for fire alarm bell, approximate weight for bidding will be 10½ tons.

Bids must be made on a ton basis, and must be made on blanks furnished by City Engineer. Plans and specifications can be obtained from the office of City Engineer. All bids must be accompanied by a certified check equal to 10% of amount of bid, as guarantee that contract will be entered into if awarded.

A bond equal to 50% amount of work must be given for faithful completion.

The City reserves the right to reject any and all bids.

All bids must be deposited in hands of City Comptroller on or before 6 P. M., Tuesday, Feb. 13, 1906.

Signed, C. G. RIVES,
26-7t Comptroller.

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41 PARK ROW "TIMES BLDG." NEW YORK

Sicilian Rock Asphalt Floors & Pavements

For Hospitals, Cellars, Kitchens, Breweries, Warehouses, Manufactories, Railroad Platforms, Sidewalks, Slaughter Houses, Stables, etc.

Sicilian Rock Asphalt Pavements for Streets
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BOILER HOUSE AND CHIMNEY.

Department of Public Works.
Bureau of Filtration.
Philadelphia, December 26, 1905.

Sealed proposals for building Boiler House and Chimney will be received until eleven A. M. (Eastern Standard Time) on January 23, 1906.

Specifications may be obtained at Room 712, City Hall.

Attention is invited to Ordinance of Councils of May 25, 1860, requiring that security be entered at the Department of Law.

26-2t 3-1t

WATER FILTERS
Pressure and Gravity Systems for all Purposes
MUNICIPAL PLANTS A SPECIALTY
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Everyone interested in the engineering achievements of the last five years should own a copy of this valuable reference book.

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:: The Index for the previous sixteen years is entirely out of print ::

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For other Proposal Advertisements see pages 42. 44. 45, 46, 47, 48, of Advertisements and Construction News page 224.

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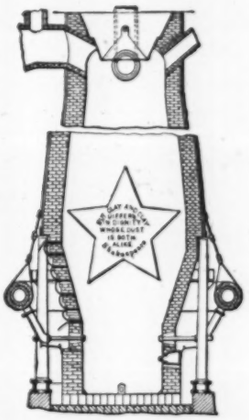

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Works on standing timber or stumps. Clears three acres at a sitting. Two horses develop the power of 144 horses. Used by hundreds of contractors.

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Gentlemen: We are using two of the two-horse Hawkeye Grub and Stump Machines bought from you, on our railroad work in Mississippi. We consider this machine invaluable to any contractor having work in timber. We have had ample opportunity to test its merits in the Yazoo Delta, where timber grows large and thick. There are three other two-horse Hawkeye Stump Pullers working satisfactorily on our work. We take great pleasure in recommending your machines.

Yours truly C. D. SMITH & CO.

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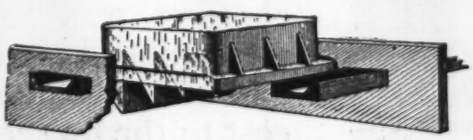

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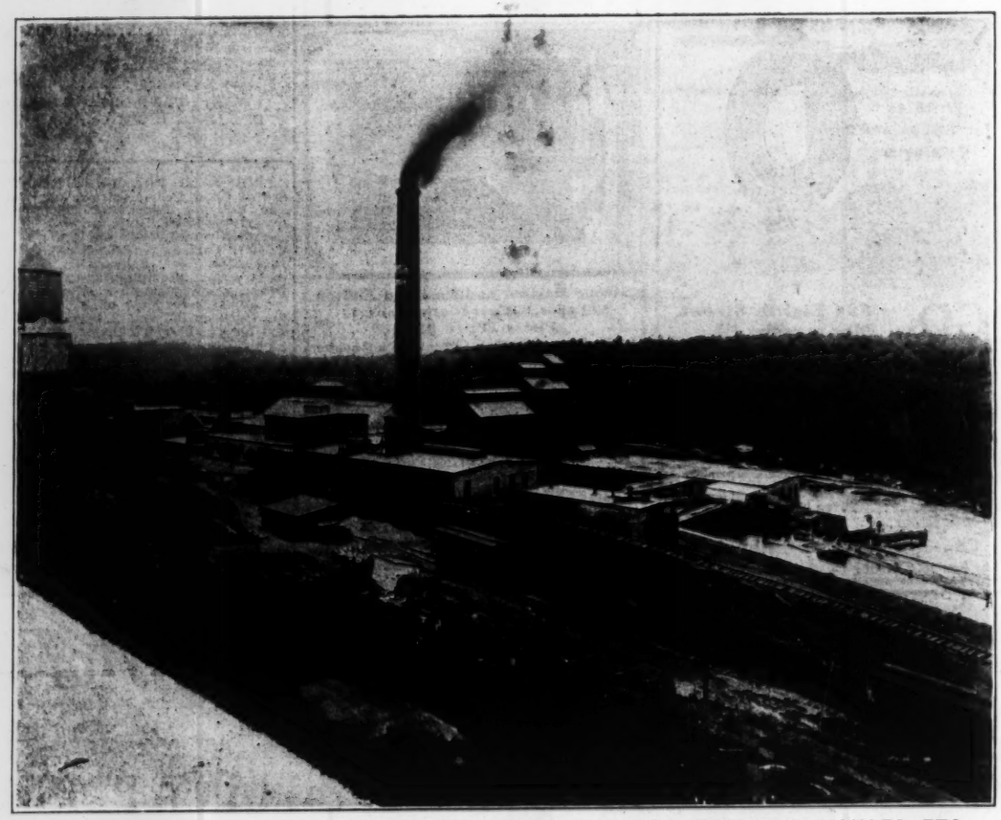

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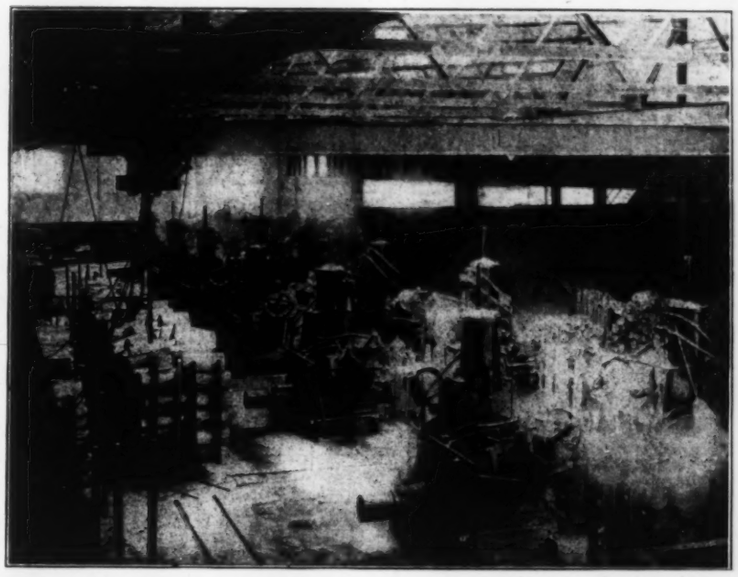

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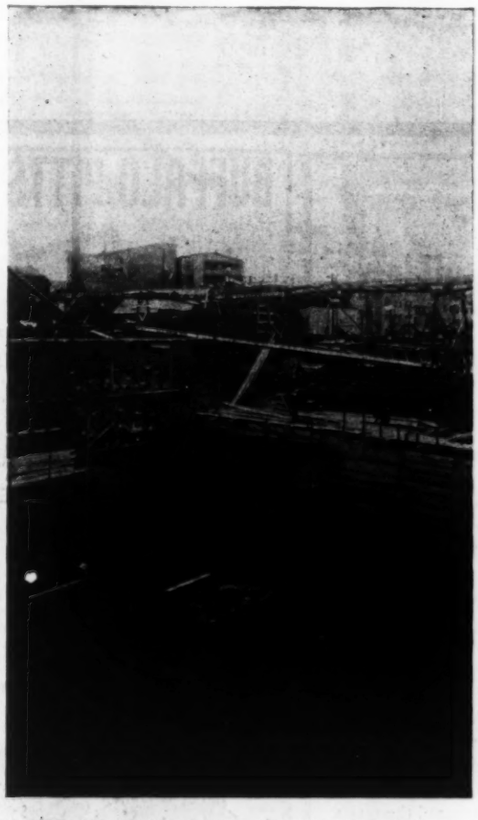

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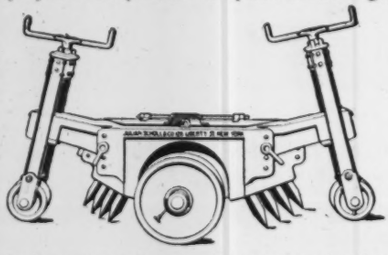

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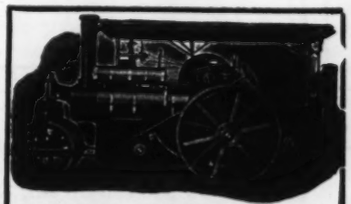

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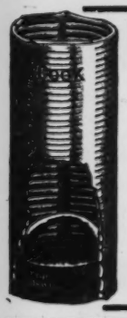

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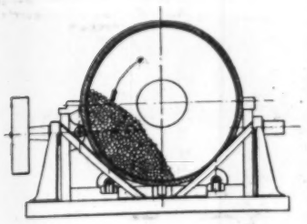

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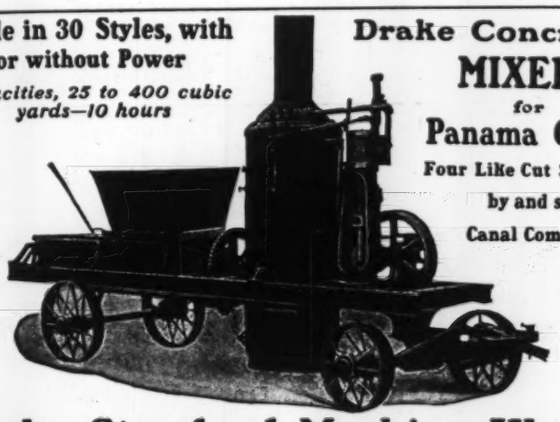

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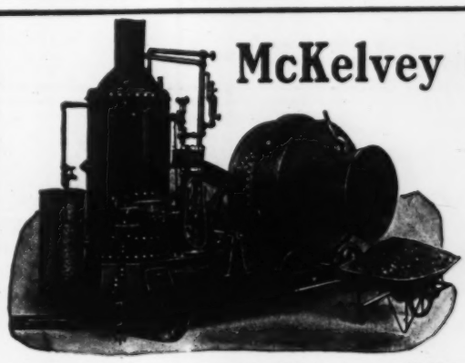

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ENGINEERING NEWS	14
Railway Age	13
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Power	11
Railroad Gazette	9
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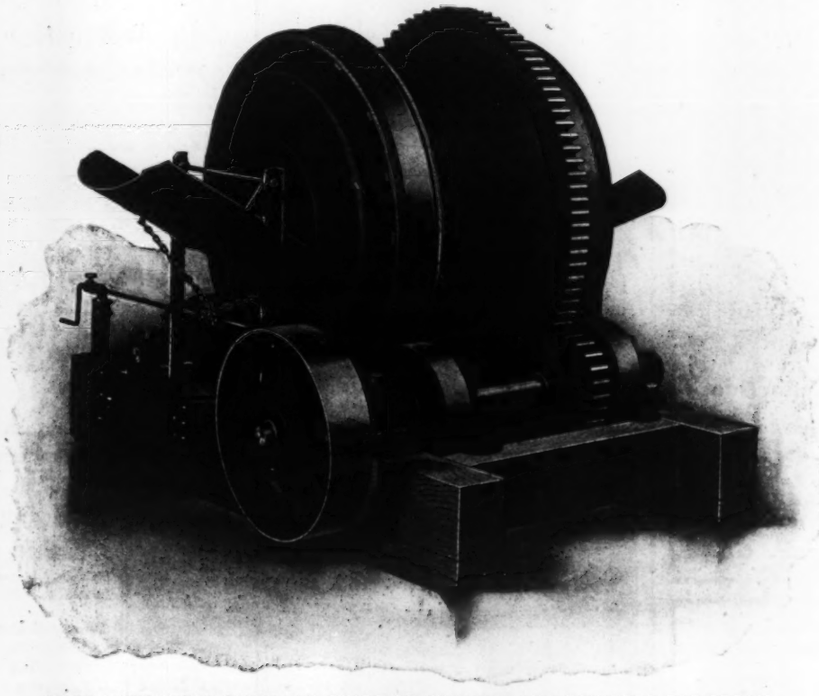

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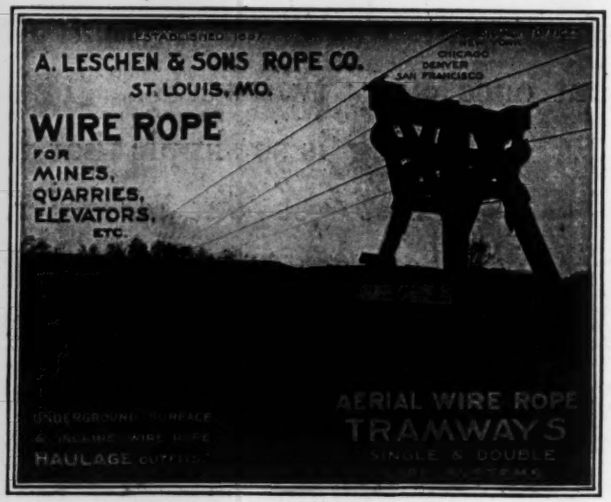

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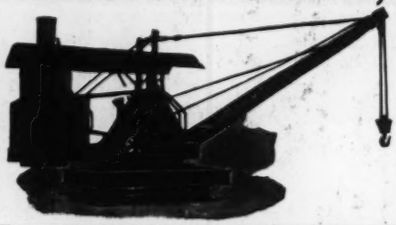

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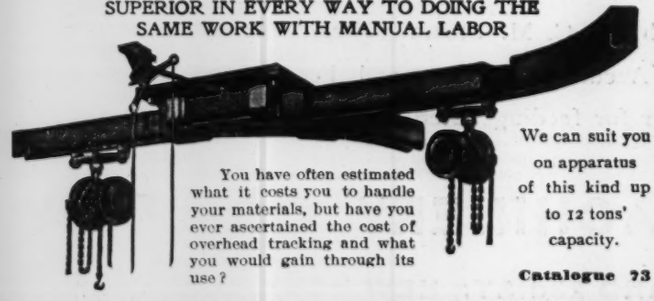

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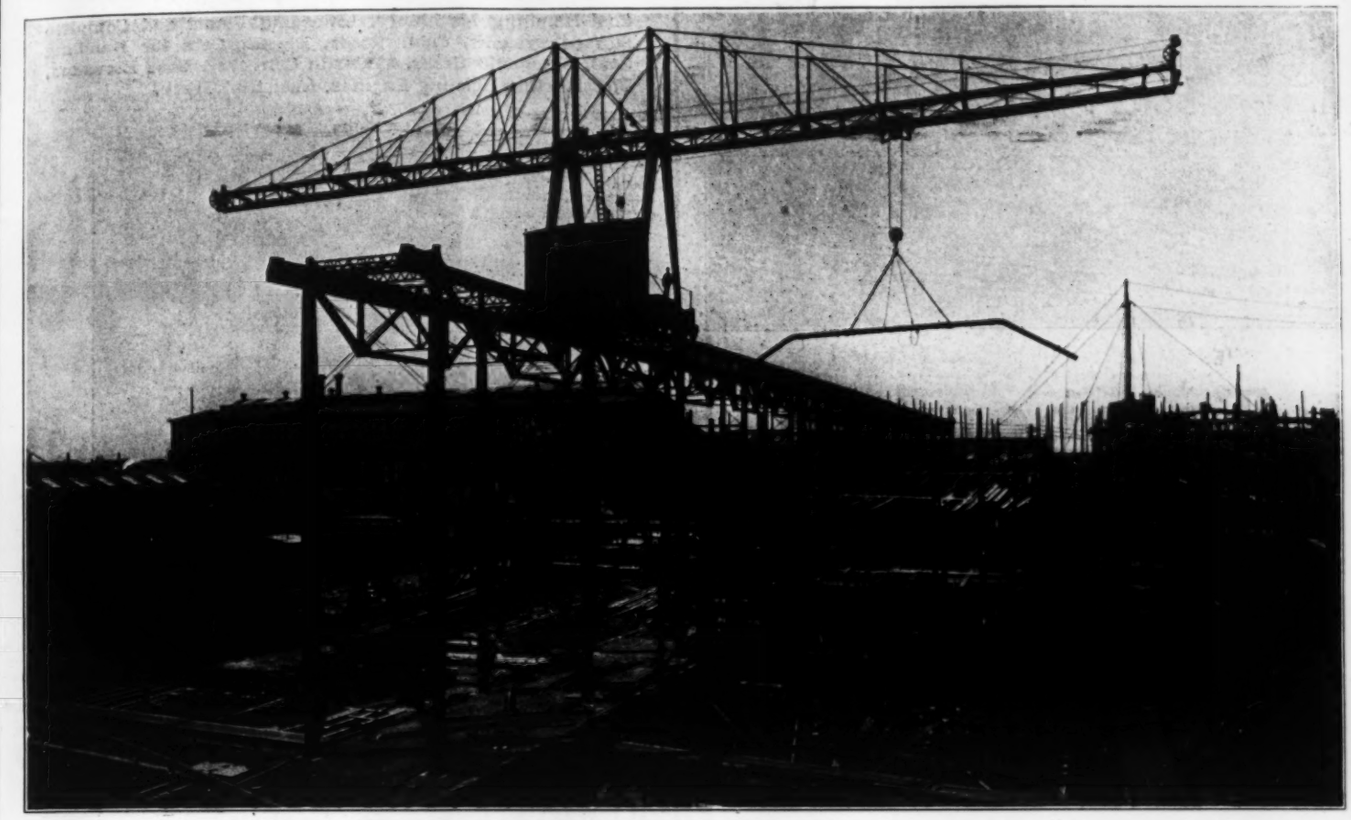

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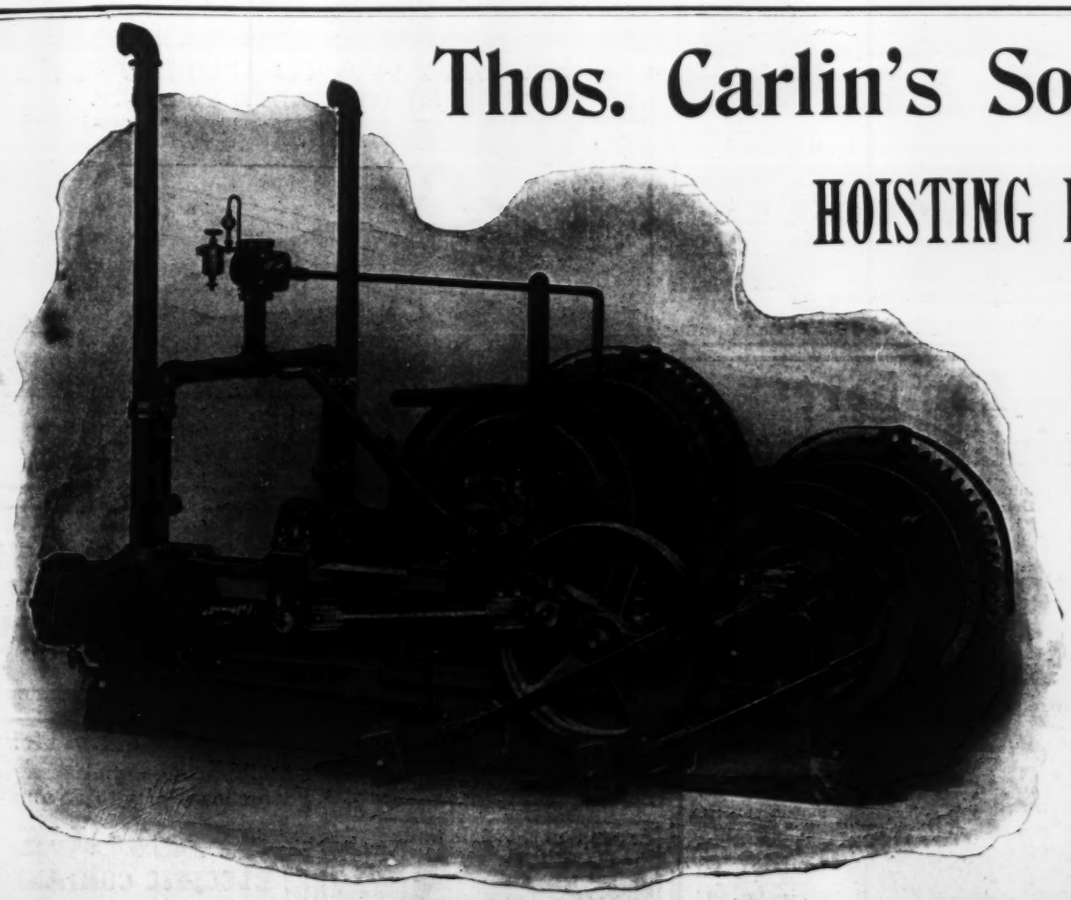

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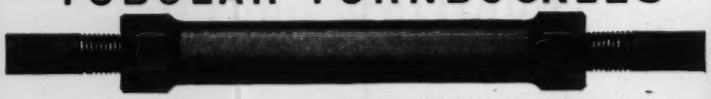

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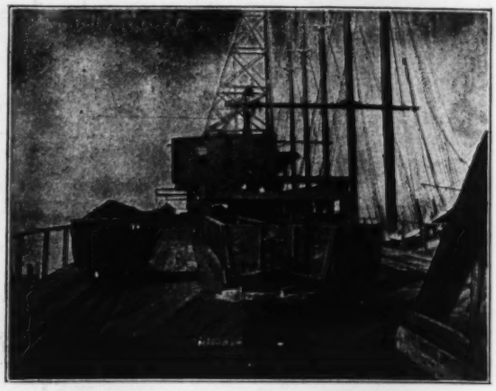

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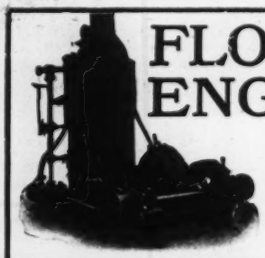

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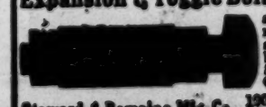

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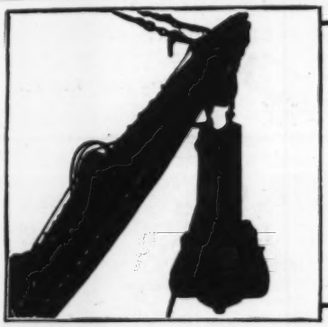

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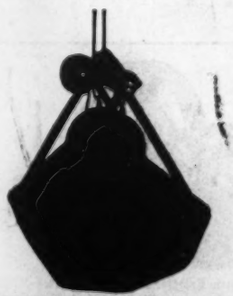

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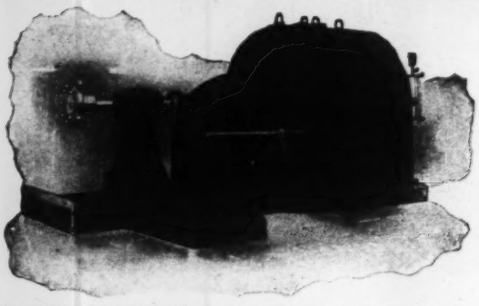

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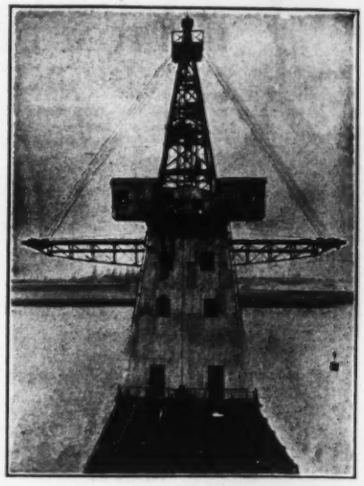

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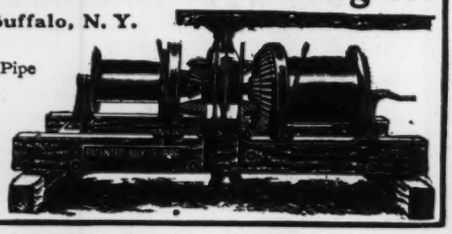

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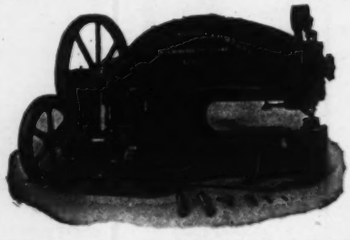

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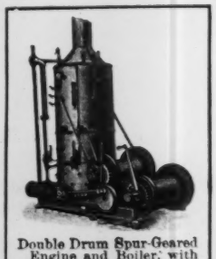

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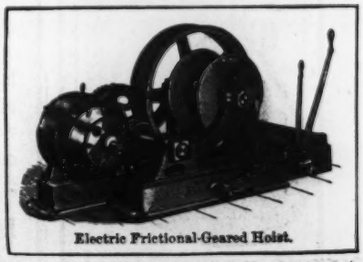

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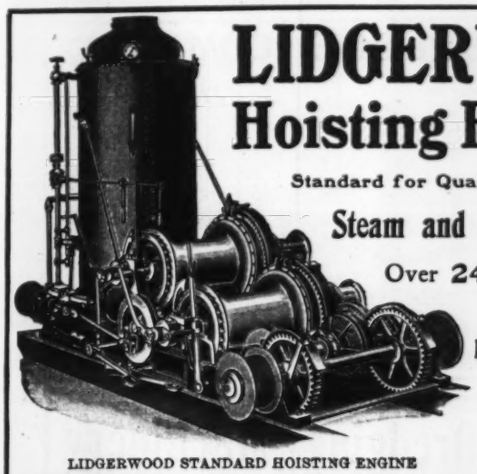

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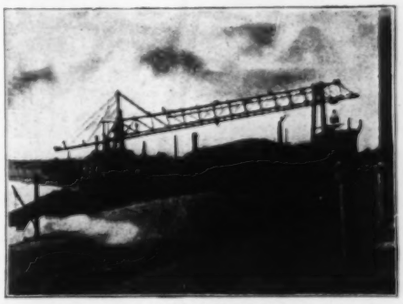

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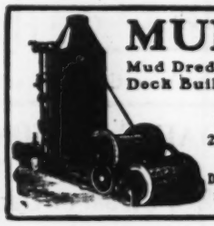

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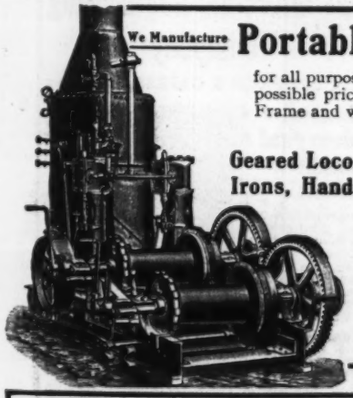

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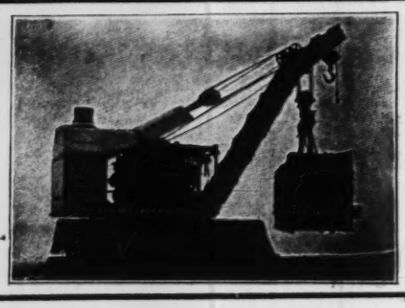

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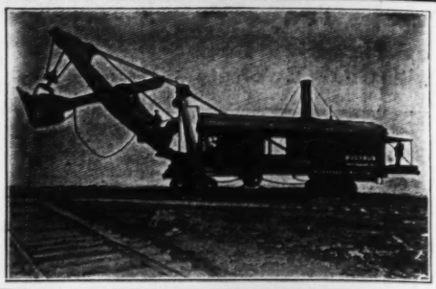

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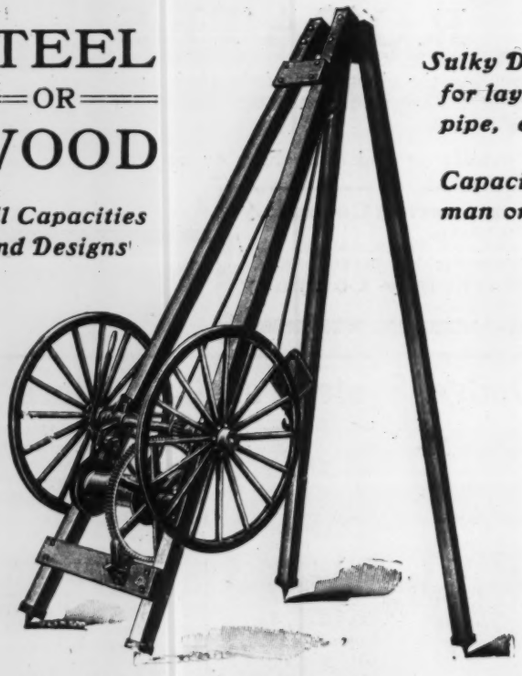

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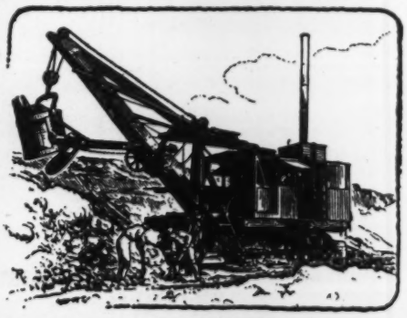

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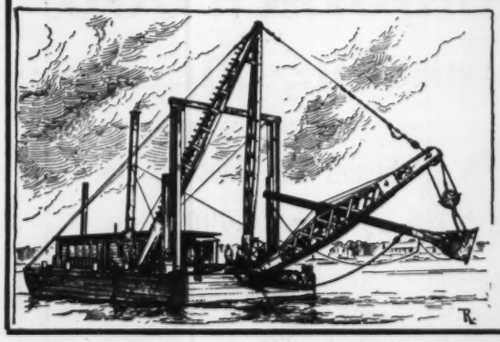

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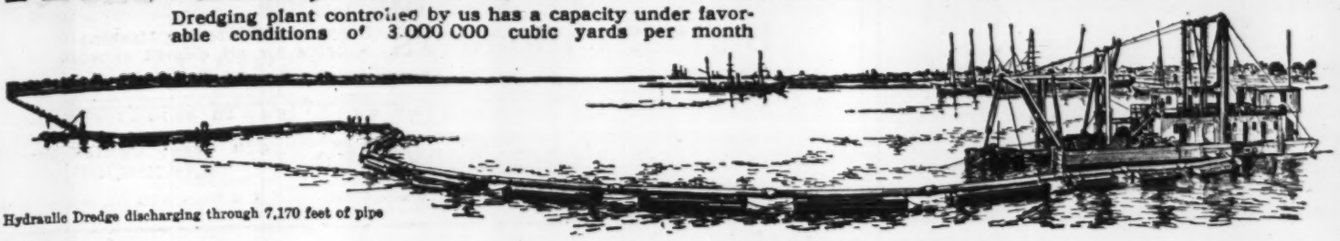

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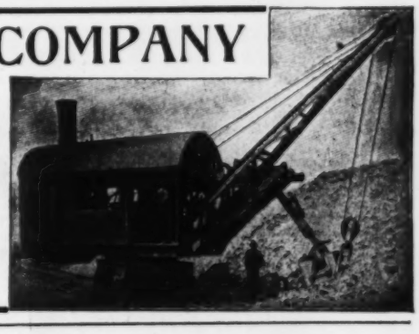

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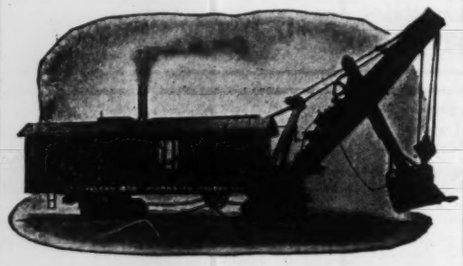

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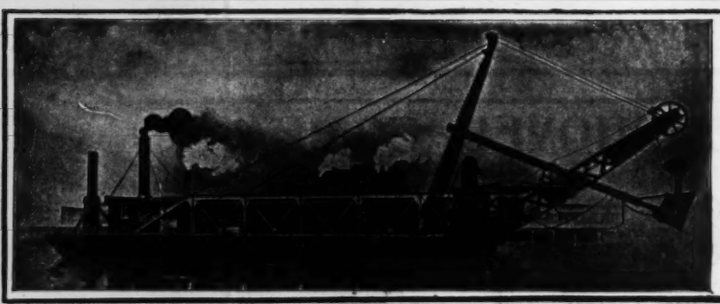

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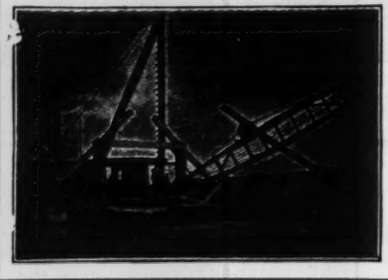

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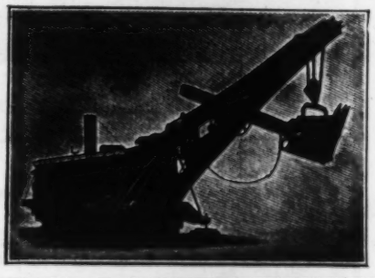

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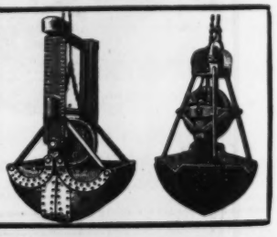

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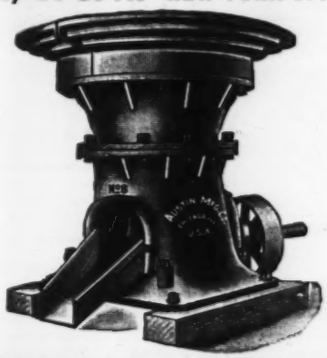

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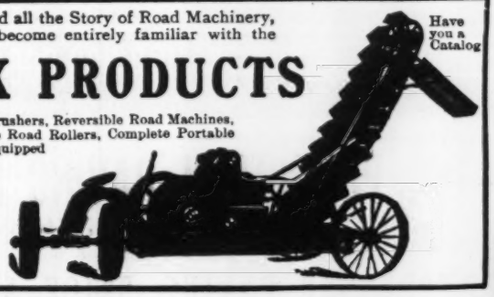

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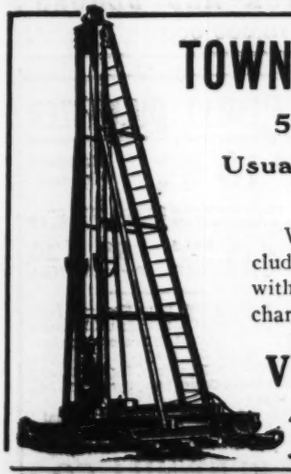

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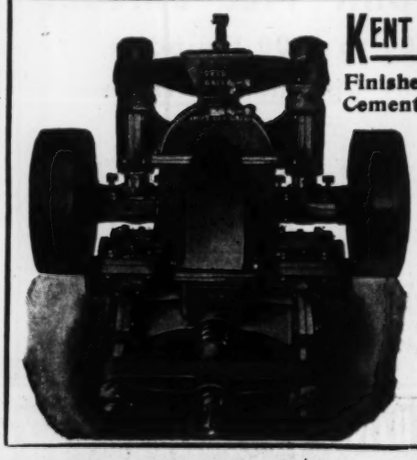

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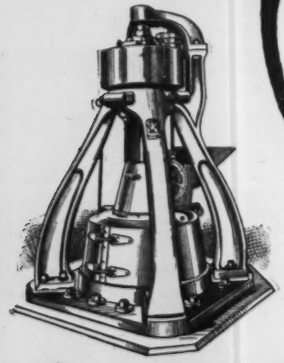

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Thoroughly tested by continually successful and constantly increasing use during the past sixteen years.
Portland Cement Clinker reduced from ½ inch to required fineness in one operation, with no auxiliary apparatus. No other machine made will do this.
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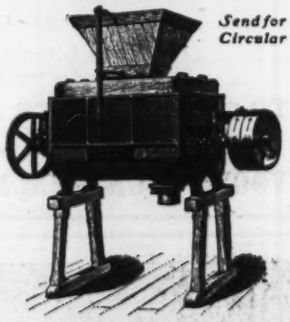

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Highest Grade American Portland
COMMERCIAL AND XLNT. PORTLAND CEMENTS
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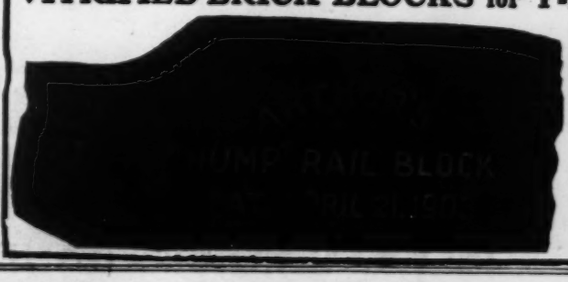
VITRIFIED BRICK BLOCKS for T-RAILS



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The Crystallization of Every Merit in the industry TO DATE.

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Only Machine Free From Infringements

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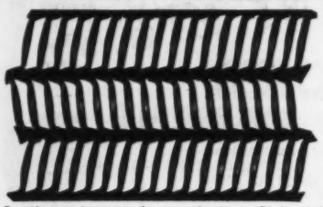

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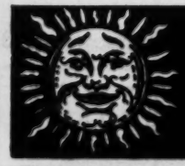

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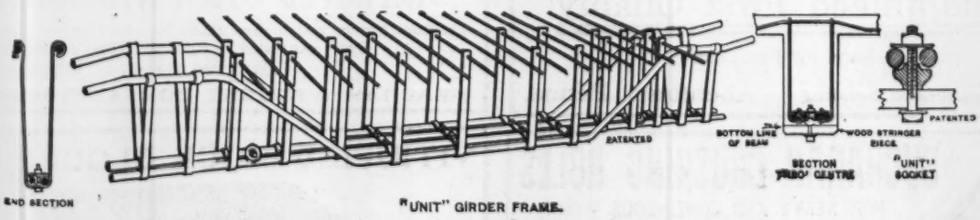

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The "Unit" Socket supports the "Unit" Girder Frame so that the center of action of Reinforcing Metal is exactly located before concreting.

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You understand the floor layout and beam spacing will be identical with your present plan.

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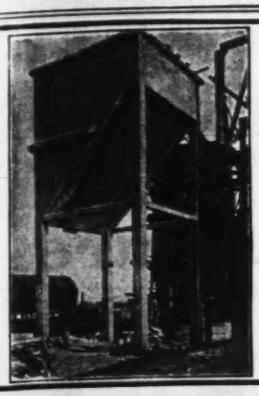

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Conversant with the Various Systems of Reinforcing Concrete in Use both in this Country and Abroad, we Employ such Methods as the Requirements of the Work in Hand may Dictate.

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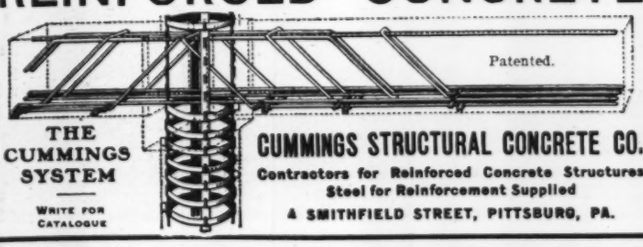

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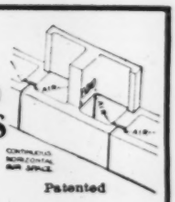

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No carrying off blocks
No loss by breakage or crackage.
No heavy, expensive iron pallets.
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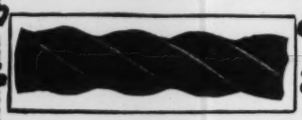

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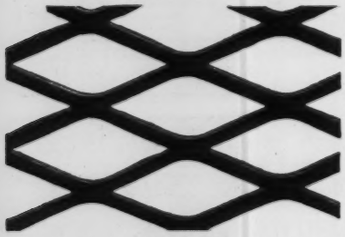

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CONTINUOUS STEEL WIRE FABRIC AND STEEL CABLES FOR CONCRETE CONSTRUCTION

SCIENTIFIC, PRACTICAL, ECONOMICAL

WITHOUT AN EQUAL FOR WIDE SPAN FLOORS

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Is this what Engineers have been looking for?

It is laid from Wall to Wall without Splicing

The Strongest Safest Most Durable and Most Easily Applied

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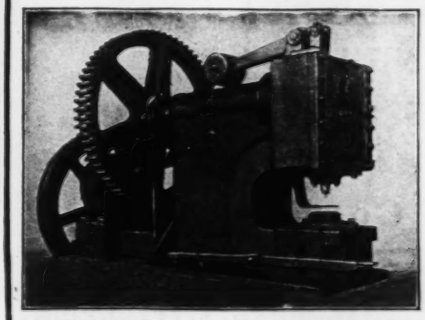

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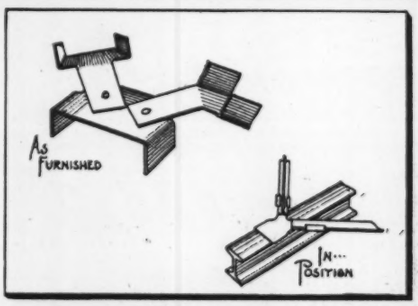

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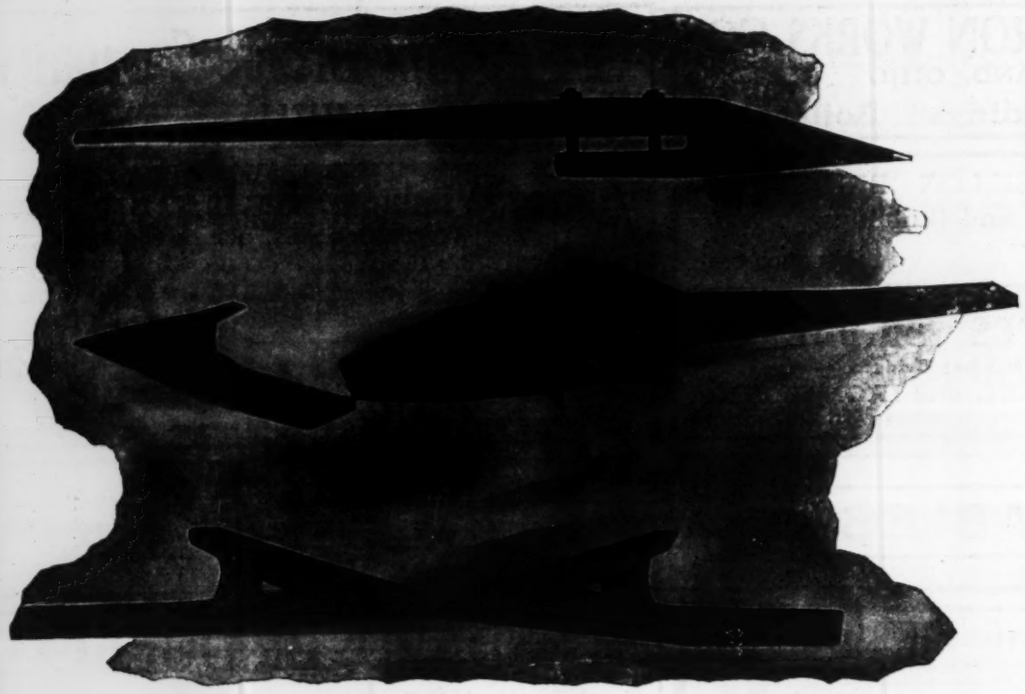

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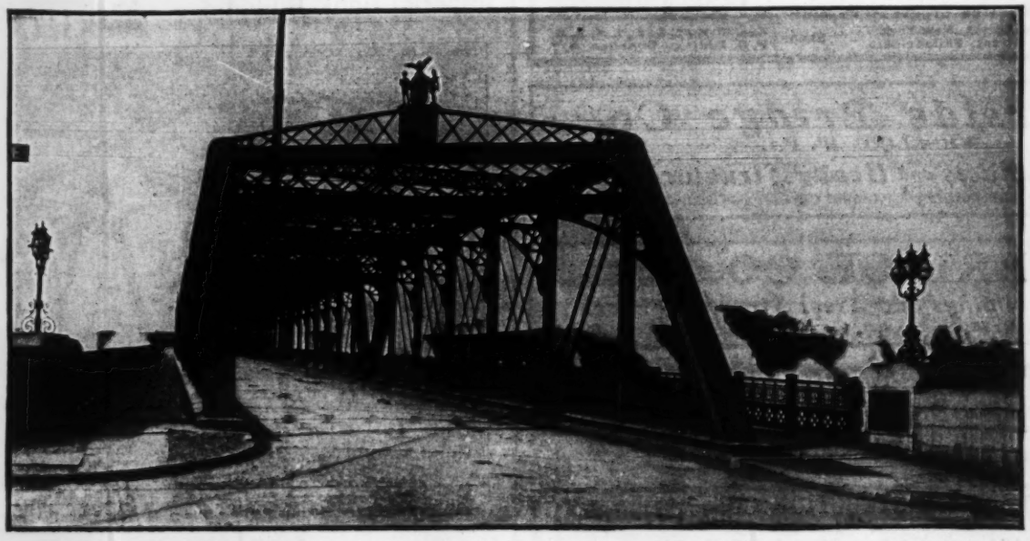

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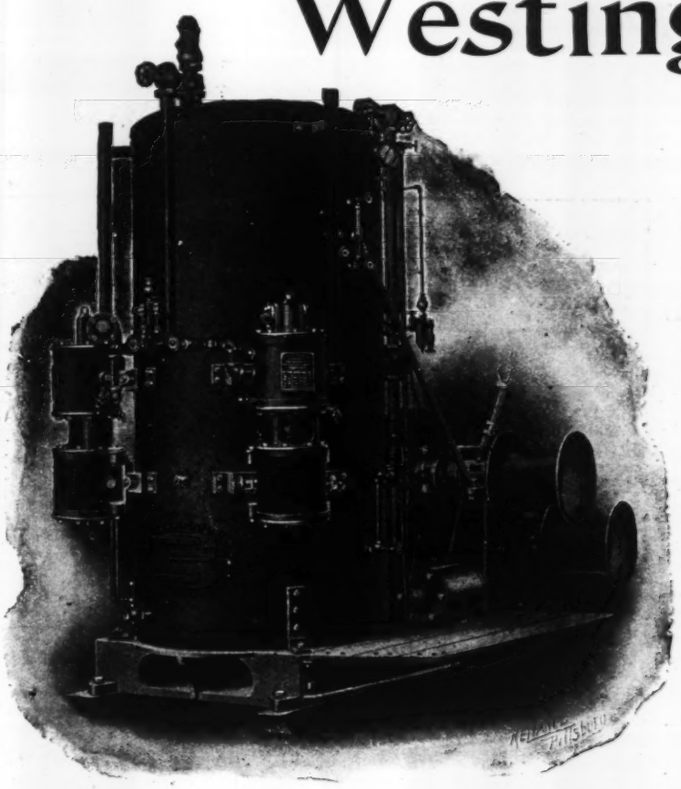

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